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GOVERNMENT OF INDIA

MINISTRY OF RAILWAYS

(RAILWAY BOARD)

Report by the Railway Board

ON

INDIAN RAILWAYS

FOR

1951-2

Volume I

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PRINCIPAL STATISTICS OF RAILWAY OPERATIONS

I.—All Indian Railways

Items		1947-8	1948-9	1949-50	1950-1	1951-2
Capital at charge	(crores) Rs	742·20	775·88	813·07	*838·18	861·55
Route mileage as on 31 March		33,984·88	33,860·85	34,022·29	34,078·94	34,119·44
Gross earnings	(crores) Rs	183·69	234·12	258·32	*264·62	294·14
Total Working expenses	(crores) Rs	163·94	184·06	207·23	*214·39	227·58
Operating ratio	per cent	89·25	78·62	80·17	*81·02	77·37
Number of passengers originating	(millions)	1,043·95	1,184·51	1,255·26	*1,307·79	1,232·07
Passenger miles	(millions)	33,649·09	38,817·19	40,019·72	*41,671·74	39,550·69
Earnings from carriage of passengers	(crores) Rs	73·27	93·11	95·25	*99·22	111·42
Average earnings per passenger mile	Pies	4·18	4·60	4·57	4·57	5·41
Freight tons originating	(millions)	73·46	82·67	91·58	*92·34	98·03
Freight ton miles	(millions)	20,399·26	22,750·42	25,464·68	27,007·52	29,017·66
Earnings from carriage of goods	(crores) Rs	86·34	112·31	135·69	139·77	153·95
Average earnings per freight ton mile	Pies	8·13	9·48	10·2	9·94	10·2
Total train miles	(millions)	157·01	167·55	179·42	185·11	191·68
Gross earnings per train mile	Rs	11·70	13·97	14·68	*14·57	15·57
Working expenses per train mile	Rs	10·44	10·99	11·78	*11·79	12·03
Net earnings per train mile	Rs	1·26	2·98	2·90	*2·78	3·54
Net earnings per mean mile worked	Rs	7,989	14,647	14,973	*14,515	19,259

* Revised figures

II. Indian Government Railways†

Items		1947-8	1948-9	1949-50	1950-1‡	1951-2
Capital at charge	(crores) Rs	674·29	703·12	727·18	*803·82	830·53
Route mileage as on 31 March		26,209·64	26,422·40	27,172·10	33,302·84	33,343·34
Gross earnings	(crores) Rs	166·23	214·77	238·32	262·57	291·85
Total Working expenses	(crores) Rs	151·93	169·63	192·89	212·67	225·76
Operating ratio	(per cent)	91·40	78·98	80·94	81·00	77·36
Number of passengers originating	(millions)	929·08	1,061·35	1,138·47	*1,279·36	1,203·73
Passenger miles	(millions)	30,086·47	35,128·66	36,322·30	*41,159·38	39,030·20
Earnings from carriage of passengers.	(crores) Rs	65·10	83·91	86·04	*97·83	109·88
Average earnings per passenger mile	Pies	4·15	4·59	4·55	4·56	5·41
Freight tons originating	(millions)	65·68	74·42	83·44	*91·38	96·66
Freight ton miles	(millions)	19,250·99	21,639·83	24,207·86	26,962·51	28,965·87
Earnings from carriage of goods	(crores) Rs	79·18	104·18	126·67	139·26	153·32
Average earnings per freight ton mile	Pies	7·90	9·24	10·0	9·90	10·1
Total train miles	(millions)	139·68	150·05	161·27	*182·01	188·96
Gross earnings per train mile	Rs	11·90	14·31	14·78	*14·67	15·67
Working expenses per train mile	Rs	10·88	11·30	11·96	*11·86	12·11
Net earnings per train mile	Rs	1·02	3·01	2·82	*2·80	3·56
Net earnings per mean mile worked	Rs	5,440	16,933	16,618	*14,748	19,562

* Revised figures.

† Include statistics of lines worked by Indian Government Railways but exclude Indian Government portions worked during 1947-8 to 1949-50 by the Jodhpur, the Nizam's State and Saurashtra railways.

‡ Include figures for Bikaner State, Jodhpur, Mysore State, Nizam's State, Saurashtra, Jaipur State, Rajasthan, Dholpur State, Scindia State and Cutch State Railways, which have been taken over by the Central Government as a result of the Federal Financial Integration from 1 April 1950.

III.—Class I Railways

The figures below refer to all the railways comprised in the group of Class I Railways during 1951-2, though some of them, *e.g.*, Bk.S., Jaipur State, Rajasthan, Cutch, Dholpur State, Scindia State, Saurashtra and G. B. S. ranked as Class II & III railways in the previous years. For comparative purposes the N. W., E. B. and A. B. railways are, however, excluded from the results for 1938-9 and the E. P., and Assam railways from 1948-9 onwards.

Items		1938-9	1948-9	1949-50	1950-1	1951-2
Capital at charge	(crores) Rs	603·22	686·26	703·16	716·70	732·99
Route mileage as on 31 March		29,637·34	29,862·57	29,571·97	29,641·04	29,680·77
Gross earnings	(crores) Rs	80·85	214·59	236·72	242·40	266·89
Total Working expenses	(crores) Rs	51·45	165·49	185·07	189·36	200·73
Operating ratio	(Per cent)	63·64	77·12	78·18	78·11	75·21
Number of passengers originating.	(millions)	394·87	1,070·83	1,128·97	1,172·63	1,101·65
Passenger miles	(millions)	13,904·40	35,049·41	36,044·48	37,291·98	35,138·81
Earnings from carriage of passengers.	(crores) Rs	22·82	83·22	84·80	87·98	98·49
Average earnings per passenger mile.	Pies	3·15	4·56	4·52	4·52	5·66
Freight tons originating	(millions)	71·21	77·07	86·00	86·02	90·27
Freight ton miles	(millions)	17,918·69	21,784·74	24,356·32	25,752·34	27,515·73
Earnings from carriage of goods.	(crores) Rs	52·16	105·36	127·78	130·64	142·57
Average earnings per freight ton mile.	Pies	5·59	9·29	10·1	9·74	9·95
Total train miles	(millions)	148·71	152·47	162·17	166·08	171·35
Gross earnings per train mile	Rs	5·44	14·07	14·60	14·60	15·58
Working expenses per train mile.	Rs	3·46	10·85	11·41	11·40	11·72
Net earnings per train mile	Rs	1·98	3·22	3·19	3·20	3·86
Net earnings per mean mile worked.	Rs	9,777	16,266	17,113	17,510	21,943

INTRODUCTORY NOTE

1. The Railway Board's annual report on Indian Railways is prepared for the financial year, *i.e.*, from 1 April of one year to 31 March of the year following.

Volume I is a narrative report dealing with the various aspects of railway working, such as, general administration, financial results, improvements in, and additions to, rolling-stock, commercial and operating methods, recruiting, training and welfare of staff, and facilities provided for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and all other aspects of railway working.

2. For the information of those who are not conversant with the value of Indian currency and the units thereof, the following details are given :—

(*a*) One *lakh* equals one hundred thousand.
(*b*) One *crore* equals one hundred lakhs.
(*c*) One *anna* equals 1/16th of a rupee.
(*d*) One *pie* equals 1/12th of an anna.

The approximate value in English coinage of a rupee at the present rate of exchange is one shilling and six pence.

3. For statistical purposes, Indian railways systems are classified as follows :—

Class I.—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II.—Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs.

Class III.—Railways with gross earnings of not more than Rs. 10 lakhs a year.

A detailed list of the railways in each class will be found in Appendix D of this Report.

3. The regrouping of Indian Railways carried out during 1951-2 has necessitated corresponding changes in the statistics contained in this volume. With effect from 14 April 1951, the M. & S. M., S. I. and Mysore State railways were integrated into the Southern Railway. With effect from 5 November 1951, the G. I. P., N. S., Scindia and Dholpur State railways were combined to form the Central Railway, and the B. B. & C. I., Saurashtra, Jaipur State, Rajasthan and Cutch State railways to form the Western Railway.

4. For purposes of the statistics in this report, the regrouping has been assumed to have taken place as from 1 April 1951 and comparative figures for the Central, the Western and the Southern Railways for 1950-1 have been compiled for the regrouped systems as a whole by consolidating the figures of the respective constituent units of the new systems. For purposes of exhibiting comparative figures for 1950-1, the Scindia, Dholpur, Saurashtra, Jaipur, Rajasthan and Cutch State Railways, which prior to regrouping were included under Class II and Class III Railways are included in group of 'Class I Railways' and omitted from the groups 'Class II' and 'Class III Railways', unless otherwise stated in the context.

5. Further, although not coming within the period covered by the present report it may be stated that on 14 April 1952, the regrouping of Government Railways has been completed with the formation of the Northern, Eastern and North Eastern railways as follows :—

The Northern Railway by the integration of the former Jodhpur, Bikaner State, and E. P. Railways ; Lucknow, Moradabad and Allahabad Divisions of the E. I. Railway ; and the Delhi-Rewari-Fazilka Section of the Western Railway.

The Eastern Railway by the integration of the former B. N. Railway with the remaining Divisions of the E. I. Railway.

The North Eastern Railway by the integration of the former O. T. and Assam Railways and the Kanpur-Achnera Section of the Western Railway.

INTRODUCTORY NOTE

1. The Railway Board's annual report on Indian Railways is published for the financial year [illegible] April [illegible] in [illegible] following.

Volume I is a narrative report dealing with the [illegible] aspects of railway working which is a general commentary [illegible] improvements in and additions to rolling-stock, commercial [illegible] [illegible], recruitment, training and welfare of staff, and [illegible] for the convenience of the travelling public.

Volume II contains financial and statistical summaries and statements covering the main heads of capital and revenue accounts and [illegible] elements of railway working.

2. For the information of those who are not conversant with the Indian currency and the units thereof, the following particulars are given:—

(a) One lakh equals one hundred thousand.
(b) One crore equals one hundred lakhs.
(c) One anna equals 1/16th of a rupee.
(d) One pie equals 1/12th of an anna.

The approximate value in English currency of a rupee at the [illegible] rate of exchange is one shilling and six pence.

3. For statistical purposes, Indian Railways are [illegible] as follows:—

Class I.—Railways with gross earnings of not less than Rs. 50 lakhs a year.

Class II.—Railways with gross earnings of less than Rs. 50 lakhs a year but exceeding Rs. 10 lakhs.

Class III.—Railways with gross earnings of Rs. 10 lakhs or less a year.

A detailed list of the railways of each class will be found in Appendix [illegible] of this Report.

4. The regrouping of Indian Railways [illegible] successive [illegible] corresponding changes in the statistics [illegible] with effect from 14th April 1951 the M. & S. M. and [illegible] were integrated into the Southern Railway. With effect from [illegible] the G. I. P. R., N. S., Scindia and Dholpur State railways [illegible] to form the Central Railway, and the B. B. & C. I., [illegible] Rajasthan and Cutch State railways [illegible].

For purposes of the statistics in this report [illegible] is assumed to have taken place as from [illegible] for the Central, the Western and the Southern [illegible] have been compiled for the regrouped systems [illegible] figures of the respective constituent units of the new systems [illegible] excluding comparative figures for 1950-51 [illegible] Bikaner, Rajasthan and Cutch State Railways, which [illegible] are included under Class II and Class III [illegible] "Class I Railways" and omitted from the accounts [illegible] "Railways", unless otherwise stated in the report.

5. Further, although not coming within the period [illegible] report, it may be stated that on 14th April 1952 the regrouping of railways has been completed with the [illegible] and North Eastern railways as follows:—

The Northern Railway by the [illegible] Bikaner State, and E. P. Railways; Lucknow, Moradabad and [illegible] Divisions of the E. I. Railway, and the Delhi-[illegible] section of the Western Railway.

The Eastern Railway by the integration of the [illegible] with the remaining Divisions of the E. I. Railway.

The North-Eastern Railway by the integration of the [illegible] and Assam Railways and the Kanpur-Achhnera [illegible] Railway.

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PRIME MINISTER AT CHITTARANJAN

THE PRIME MINISTER ON HIS VISIT TO CHITTARANJAN ON 1 MARCH 1952, ADDRESSING THE WORKERS.

CHAPTER I

GENERAL

1. General features of the year.—The year under review recorded a substantial improvement over the previous year in financial results and in several phases of railway working. There were, however, certain setbacks, but these have not affected the level of earnings. The progress disclosed in the performance of the railways during 1950-1 was not only maintained: the continued efforts to raise operational efficiency led to improved standards of working.

The volume of transportation handled, on which depends the extent of traffic and earnings, is determined by the general economic activity of the country. There was distinct economic progress during the year. While the impact of the inflationary pressure generated by the Korean hostilities weakened, the disinflationary measures adopted by the Government and developments abroad combined to produce a more favourable economic climate, particularly in the latter part of the year. As regards agricultural production, there was improvement, except under cereals which were adversely affected by both floods and drought in parts of the country, the loss under food grains in the *Kharif* crop being rather heavy. Drought in the middle of October delayed the *Rabi* sowings. Although food production was thus affected, increased production was recorded under cash crops, such as cotton, jute, sugar (raw) and oil seeds. Industrial production during the year recorded a substantial improvement over the previous year. The post-war upward trend was maintained in the basic industries and there were considerable rises in most consumer goods industries. Production of steel, paper and paper boards, sulphuric acid, ammonium sulphate, metals, cement and salt during 1951 touched a higher level than any reached since 1938. Coal raisings broke the previous year's record at 35 million tons. Electrical energy generated and sold exceeded the high figures of the previous year. As regards textiles, the output of cloth as well as yarn rose by 11 per cent as compared with the previous year. Only woollen manufactures showed a decrease. Foreign trade during 1951-2 was also better than the previous year. Total imports were greater both in quantity and value. Exports, although less in quantity, were also greater in value as compared with the previous year. To the larger volume of economic activity in the country denoted by these general features of the year, the improvement in transport itself represents an important contributory factor. Equally important has been the fact that the labour-management relations have been on the whole better in most industries. There were no major industrial disputes during the year, and the number of man-days lost was lowest since 1947-8.

These features of the general economic situation in the country contributed to the increased tonnage and ton-miles, and consequently to the improved results of railway working during 1951-2. Gross earnings of all railways touched the highest figure so far attained. To this result, both passenger and goods earnings have contributed, each representing a new record. The operating ratio has been the lowest since 1947-8. Taking for purposes of comparison with 1938-9 the results of the Class I Railways not affected by the Partition, fresh records have been set up under many items—gross earnings, passenger earnings, goods earnings, originating tonnage, freight ton mileage, train mileage. For the first time the uninterrupted increase in passenger traffic which had characterized railway working for a decade suffered a slight recession during the year. The volume of passenger traffic handled by Indian Railways, despite this decrease, amounted to 153 per cent more than was moved in the pre-war year. These remarkable results, particularly against the background of the partial completion of the railway rehabilitation programme, have been

rendered possible only by the continued efforts of the railways to achieve greater operational efficiency and, consequently, increased capacity to move the additional traffic, as signified by the operation of 15·2 per cent more train miles than in the pre-war year.

2. General review of working.—Gross earnings on all railways for the year 1951-2 amounted to Rs. 294·14 crores, an increase of 11·2 per cent over the previous year. The increase in earnings is to be ascribed generally to the enhancements in passenger fares and additional goods traffic handled. The earnings from passengers carried recorded an improvement of 12·3 per cent and the earnings from goods of 10·2 per cent as compared with the figures for 1950-1.

The gross traffic receipts of Indian Government Railways amounted to Rs. 290·82 crores. After meeting all charges, including depreciation amounting to Rs. 30·21 crores*, but excluding interest charges, the net revenue on the results of working for the year amounted to Rs. 61·75 crores. In accordance with the terms of the revised Convention, the amount of Rs. 33·41 crores, representing the dividend at 4 per cent on the Capital invested out of General Revenues in the railway undertaking, excepting strategic lines, was paid, leaving a balance of Rs. 28·34 crores which was allocated as follows:

Development Fund	Rs. 10·00 crores
Revenue Reserve Fund	Rs. 18·34 crores

Certain important statistics relating to the traffic handled during 1951-2 as compared with 1950-1 for all Railways are given below:

PRINCIPAL STATISTICE OF WORKING OF ALL RAILWAYS

Items		1950-1	1951-2	Percentage variations
Number of passengers carried	(in millions)	1,307·8†	**1,232·1**	—5·8
Passenger miles	(in millions)	41,671·7†	**39,550·7**	—5·1
Earnings from passengers	(in crores) Rs.	99·22†	**111·42**	+12.3
Average amount earned per passenger per mile	Pies	4·57	**5·41**	+18·4
Average miles a passenger was carried	Miles	31·9	**32·1**	+0·6
Freight tons carried	(in millions)	92·3	**98·0**	+6·2
Net ton miles	(in millions)	27,008	**29,018**	+7.4
Earnings from goods carried	(in crores) Rs.	139·77	**153·95**	+10·2
Average amount earned per ton per mile	Pies	79·94	**[10·2**	+2·6
Average mile a ton of goods was carried	Miles	293	**296**	+1·0

The comparative figures of the volume of traffic moved indicate a decrease in passenger traffic and a substantial increase in goods traffic during 1951-2 as compared with the performance of the previous year. Passenger miles during the year amounted to 39,551 million or 5·1 per cent less than the figure for the previous year. Net ton miles showed an increase of 7·4 per cent from 27,008 million to 29,018 million. Average lead of passengers and goods increased slightly.

Although less than the record figure of 1950-1, passenger traffic during the year was more than two-and-a-half times pre-war figure. Excluding for purposes of comparison the railways affected by the Partition namely, the Eastern Punjab, Assam and East Indian (narrow gauge), passenger miles on Class I Railways, amounted in 1951-2 to 35,132 million as compared with 13,904 million in 1938-9, representing an increase of 153 per cent.

The number of passengers carried and passenger miles in 1951-2 on *Class I Railways* declined by 5·7 and 5·2 per cent respectively as compared

*21 lakhs are chargeable to capital being depreciation on capital assets of Chittaranjan Locomotive Works as explained in para 19.

† Revised figures.

with 1950-1. The fall in passenger traffic has occurred in all the classes except the Air-conditioned which alone recorded an increase, of about 39·5 per cent, in passenger miles. The First, Second and Inter classes have recorded decreases of 11·4, 14·1 and 12·7 per cent respectively, while in the Third class the decline has amounted to only 4·7 per cent. These figures indicate also a shift towards lower class travel from the upper classes. This is also reflected in relative volume of traffic in the Third class, which accounted for 94·4 per cent of the total passenger miles in 1951-2 as against 93·9 per cent in 1950-1. In view of the magnitude of the Third Class as compared with the other classes, a small percentage variation in the figures represents quite a substantial volume numerically.

The volume of goods traffic during the year on Class I Railways stated in terms of net ton miles, showed an increase of 7·6 per cent over the preceding year. Here again, the figures of Class I Railways, excluding the Eastern Punjab, Assam and East Indian (narrow gauge) established a fresh record in an increase of 54·2 per cent over the pre-war figure. An analysis of the movements during the year shows the composition of the goods to be 39·6 per cent under Coal, 10·2 per cent under food grains and pulses, 2·0 per cent under oil seeds, and 48·2 per cent under 'Other commodities'. The composition of goods traffic in 1951-2 as compared with 1950-1 showed proportionately increased handling of food grains, though the actual tonnage moved of other commodities was also more.

Turning to the operating aspect, Indian Railways during the year have on the whole done better than they did in 1950-1. The performance during 1951-2 shows improvement under several factors of working.

The train mileage run during 1951-2 exceeded the previous year's performance by 7·14 million or 4·17 per cent. Taking the Class I Railways, excluding Assam, Eastern Punjab and East Indian (narrow gauge), the train mileage on passenger and goods services exceeded the pre-war level by 7·04 and 24·81 per cent respectively.

During the year, punctuality of passenger trains showed an all-round improvement on metre gauge, the figure having advanced from 71·43 to 77·70. On the broad gauge also there was general improvement excepting on the electric multiple unit suburban services at Bombay.

As regards goods services, greater efficiency is reflected under several operating averages. As compared with 1950-1, the transportation effected by wagons per day, as shown by the net ton miles per wagon day improved from 434 to 469 on the broad gauge and 186 to 197 on the metre gauge. The net freight carried per train also increased by 8 tons on the broad gauge and 5 tons on the metre gauge. Net ton miles per locomotive day on the line and in use show a good improvement on both the gauges.

The average number of engines in use daily during 1951-2 rose by 1·19 per cent on the broad gauge and 2·63 on the metre gauge as compared with 1950-1. The percentages of engines under or awaiting repairs showed an improvement from 19 to 18 on the broad gauge and from 18 to 16 per cent on the metre gauge.

3. Regrouping of railways.—The subject of regrouping of Indian Railways has been engaging the attention of the Railway Board for the last thirty years. During this period the question was examined from time to time. Certain investigations were made and tentative proposals formulated, but no concrete steps towards the regrouping of Indian Government Railways could be taken until the State could take over the company-managed railways on the expiry of their contracts. The division of the ex-North Western and the ex-Bengal Assam Railways on Partition during 1947-8 left two small systems which, for the time being, had to be re-constituted into the Eastern Punjab and Assam Railways, and operated as separate units. Particularly in view of this, the reorganization of the railways in northern India was rendered necessary. But the Federal Financial Integration bringing with it the integration of the railways of the Indian States not only afforded an opportunity to plan regrouping on comprehensive lines, but also, in view of the multiplicity of the units, made

the regrouping of the existing units to form a fewer but larger systems imperative. In 1950, the Railway Board, after careful consideration and study, prepared a plan of regrouping Indian Railways into six zonal systems, the Northern, North Eastern, Eastern, Southern, Central and Western. The scheme was circulated in June 1950 to the States Governments, Chambers of Commerce, Railway Labour Organizations, and the public for eliciting opinion. The views received from these agencies were examined and the proposal for the regrouping of Indian Railways was approved by the Central Advisory Council for Railways in December 1950.

The process of regrouping of railways commenced with the inauguration of the Southern Railway on 14 April 1951, as approved by the Central Advisory Council at their meeting on 17 February 1951. The Southern Railway with its headquarters at Madras and the route mileage of 6,000 was formed by the amalgamation of the Madras and Southern Mahratta, the South Indian and the Mysore State Railways. The Central and the Western Railways, both with their headquarters at Bombay, were formed on 5 November 1951. The Central Railway was formed by merging into the Great Indian Peninsula Railway, the Nizam's State, the Dholpur, and the Scindia State Railways. The Western Railway was formed by combining the Bombay, Baroda and Central India, Saurashtra, Cutch, Rajasthan and Jaipur State Railways, along with a short section-Marwar-Phulad of the Jodhpur Railway. The total route mileage of the Central Railway was 5,428, and that of the Western Railway 6,026.

4. Railways and the Legislature.—The Railway Budget for 1952-3, as approved by the Standing Finance Committee for Railways, was presented to the 'Provisional' Parliament on 22 February 1952. The general discussion on the Budget proposals took place on 25 February 1952. The voting of the Demands for Grants for the full year was, however, left over to the new House of the People, and under Article 116 of the Constitution a vote "On Account" was taken for the first 4 months of the financial year on 26 February 1952.

General discussion on the Budget which took place on 25 February 1952, covered a variety of subjects. The more important of these were regrouping of Indian Railways, amenities to third class passengers, construction of new lines, improvement in carriages and over-crowding in trains, rolling-stock performance, rationalization of freight structure, stores balances on railways and setting-up of machinery for purchase of railway stores under the Railway Board, grievances of staff and paucity of wagons.

Sixteen cut motions were moved to discuss general policy. These covered a large ground, such as economy in fuel and stores, inadequate supply of wagons, private-owned railways, construction of new lines in Rajasthan, regrouping of Railways, increase in freight rates, lack of plan for rapid expansion, rail-cum-road bridge at Manihari, unfair treatment of railway employees detained in connection with threatened strike, inadequate train services, railway rehabilitation, grievances of staff, construction of new railway stations and general policy of Railways.

The cut motions after discussion were either withdrawn, or not pressed or negatived.

Out of a total number of 2,468 questions asked in the Parliament during the year, 170 or about 7 per cent related to the Ministry of Railways. A wide range of subjects such as railway accidents, staff matters, construction and purchase of rolling-stock and locomotives, coal, passenger amenities, and railway lines and projects formed the subject matter of these interpellations.

5. Standing Finance Committee for Railways.—The Standing Finance Committee for Railways had five meetings during the year. It scrutinized as usual, the Government's proposals for Capital and Revenue Expenditure to be incurred during 1952-3 prior to their being placed before the Parliament.

The proposals considered by the Committee included the construction of a line from Chunar to Robertsganj on the East Indian Railway, restoration of the Bijnor-Chandpur-Siau Section of the East Indian Railway and restoration of Bobbili-Salur Branch of the Bengal Nagpur Railway.

The Committee also considered a number of other subjects. The more important of these were: purchase of the Tezpore-Balipara Light Railway and Tinnevelly-Tiruchendur Railway, construction of a carriage and wagon repair centre for the Eastern Punjab Railway, and diversion of South Indian Railway broad gauge main line from east of Singanallur to Coimbatore North.

6. **Central Advisory Council for Railways.**—The Central Advisory Council for Railways met five times during the year and the Honourable Minister for Railways presided over all the meetings.

Among the subjects that were considered at these meetings, were the following:

(1) Nomination of members of the Central Advisory Council for Railways to serve on the Local Advisory Committees of Railways;

(2) Formation of the Western and Central Zones;

(3) Formation of the Northern, North-Eastern and Eastern Zones.

7. **Local Advisory Committees.**—Pending decision about the revised set up of these advisory bodies, particularly as a result of regrouping of Railways, the existing Local Advisory Committees on the various Railways were permitted to continue. Sixty-four meetings of the Local Advisory Committees were held during the year under review. Greater importance was given to the subject of provision of passenger amenities at these meetings. Practically all the recommendations made by the members of Local Advisory Committees were considered and accepted by the Railway Administrations.

8. **Amenities for the public.**—Steps taken during 1951-2 to improve the comfort and conditions of rail travel are detailed in Chapter VIII. Some of the salient features of what has been done during the year may be referred to here:

(1) In order to relieve overcrowding in trains, particularly third class passengers, caused by the large increase in passenger traffic, additional trains were introduced including extensions to existing services during 1951-2. By 15 May 1952 the date on which new time tables were revised consequent on the regrouping of Railways into Northern, North Eastern and Eastern Railways, the passenger train services on Indian Railways expressed in terms of train miles per day had increased by about 4,163 on the broad gauge and 5,447 on the metre gauge over those operating on 1 April 1951. Though these measures afforded appreciable relief to the travelling public, it will take some more time to eliminate substantially the overcrowding in trains.

(2) Considerable improvement in respect of supply of drinking water to passengers was effected during the year. The facility of supply of electrically cooled water to passengers at certain stations was much appreciated by passengers and this amenity was extended to other stations also.

(3) Close attention was paid to the cleanliness of coaching stock and station premises. Considerable improvement was effected in this respect.

(4) The safety of passengers, especially women passengers was another matter which continued to receive the special attention of the Railway Administrations. During the year under review the work of fixing iron bars to the windows of ladies' compartments was almost completed.

9. **Staff.**—Certain developments relating to staff during the year under review are mentioned below:

Action was taken during the year on the remaining recommendations made by the Joint Advisory Committee and orders were issued to Railways for the implementation of the same.

Reference is made elsewhere in this Report to the relations between the Railway Board and the Federations of Railway staff during the year and the setting up of a permanent negotiating machinery.

In accordance with the undertakings given to labour and the general policy of Government, all temporary posts continued to be reviewed with a view to converting them into permanent ones where justified and confirming temporary staff to the extent possible in such posts as well as in normal permanent vacancies. Orders were also issued permitting railways to convert into permanent up to 75 per cent of the posts created for implementing the Adjudicator's Award and also to create supernumerary posts required in the initial grade of recruitment to confirm the temporary staff who were appointed prior to 15 September 1945.

Consequent on integration of the *ex*-States' Railways and the formation of the three Zonal Railways, **viz.**, Southern, Central and Western, the question as to how the seniority of non-gazetted staff of the comprising units should be determined for the purpose of promotion and confirmation came up for consideration of the Railway Board and it was decided to appoint three committees, one for each Railway to examine and report on the most equitable method of regulating the seniority of class III and class IV staff.

Forty-four appointments were made to the Superior Railway Services by direct recruitment during the year and nine promotions were made to those Services from Class II and Class III services.

On the taking over by the Central Government in 1950 of the management and ownership of the Railways belonging to the Part B States, as a result of the Federal Financial Integration, about 286 Gazetted Officers and 67,632 non-gazetted staff of these railways were absorbed in the Railway Services on the basis of the equation of their posts, in accordance with the principles laid down by the Government. The prescribed scales of pay for them were also settled and notified.

During the year 1950-1 about 11,500 surplus staff were absorbed in alternative posts, only about 500 having been retrenched; the majority of these either had only very short service or refused to accept alternative appointments. During the year under review the position further improved. About 3,000 men were absorbed in alternative posts and about 250 men only were retrenched for the same reasons.

The Adjudicator's Award was implemented by 31 March 1951 on the Indian Government Railways in so far as it related to the hours of work and periodic rest. During the year, final orders on the question of leave reserves were issued. The work of amending Chapter VI-A of the Indian Railways Act, 1890, with a view to giving statutory force to the Adjudicator's recommendations, accepted by the Government, was taken in hand.

With a view to expanding the training facilities in order to meet the increased requirements of personnel for handling heavy movement of men and materials, a Railway Staff College at Baroda was formally opened by the Minister for Railways on 31 January 1952. The first course consisting of 19 Probationary Officers of the Transportation (Traffic) and Commercial Departments commenced on 1 February and terminated on 31 March 1952. Besides this, 29 other training schools were functioning on Railways during the year.

During the year Government sanctioned with effect from 1 June 1951 an *ad hoc* increase of Rs. 5 *per mensem* in the rates of dearness allowance to Railway servants, drawing pay up to Rs. 250 *per mensem* and who are on the full cash dearness allowance. Railway servants drawing pay from Rs. 251 to Rs. 300 *per mensem* were also given the benefit of the increase so that their dearness allowance may not be less than that of the staff drawing pay up to Rs. 250 *per mensem*.

The Central Railway Service Commission continued to conduct recruitment of Class III staff to the Indian Railways up to 4 November 1951 after which date two Regional Railway Service Commissions with headquarters at Bombay and Calcutta were set up as one commission was unable to cope with all the work.

10. Security measures on Railways.—On railways where the Railway Protection Police is functioning, the strength of the force has been reviewed from time to time in consultation with the State Governments and the Railway Administrations concerned. During the year under review the strength of the Railway Protection Police in the *ex*-East Indian Railway portion in West Bengal has been temporarily increased. There has, otherwise, been no appreciable change in the general situation or the strength of the force during 1951-2.

Passenger trains in affected areas continued to be provided with escorts. The fitting of security devices in compartments and maintaining them in working order also continued to engage the attention of Railways. Most of the windows of upper class compartments, lavatories of all carriages and ladies' compartments of Third class were provided with iron bars.

11. Publicity and public relations.—Indian Railways continued their usual publicity activities through posters, press notes, press conferences, etc. With a view to preventing fire in railway carriages caused from inflammable articles carried by passengers in trains as luggage, a press campaign was launched by Railways and advertisements were released in newspapers appealing to passengers not to carry inflammable articles as luggage, stressing at the same time that it was illegal to do so. To educate the railway staff and to stress upon them the desirability of careful handling of goods and parcels in the goods and parcels offices and transit sheds a "stop rough handling" week was observed quarterly by displaying illustrative posters at all parcels and goods offices and in marshalling yards and spot-lighting attention of staff concerned.

Indian Railways participated in the Colombo Plan Exhibition, held at Colombo from 23 February to 23 March 1952. The Railway staff elicited commendatory remarks from a number of visitors.

12. Complaints.—The Complaints Organization for keeping watch on the prompt disposal of complaints from the public continued to function. During the year under review, 23,857 complaints were received and dealt with by Railway Administrations. The Railway Board's office dealt with about 1,300 complaints. All complaints were investigated and in cases where they were substantiated, disciplinary action was taken.

13. Floods and cyclones.—Considerable damage was done to railway property during the year as a result of heavy rains, floods, cyclones and earthquake. Details of the damages caused by such natural causes are shown in paragraph 67 of Chapter IV of this report.

14. Railway Rates Tribunal.—At the beginning of the year under review the Tribunal had on hand three complaints from members of the public and two applications from the Central Government pending final hearing and disposal. During the year the Tribunal received five complaints from members of the public. They related to (1) higher rates for hemp jute and other fibres and quotation of rates for hemp, pressed from Shiupur to K. P. Docks and for hemp loose from certain specified stations in the Madhya Pradesh area to Shalimar, (2) disparity in freight rates for plywood tea chest shooks as compared to plywood in commercial sizes, (3) quotation of station-to-station rates for "cast iron pipes" from Bhadravati to Bombay, Badlapur, Ambarnath and Kalyan, (4) quotation of station-to-station rates for certain varieties of paints and varnish from Calcutta to Madras and (5) quotation of station-to-station rates for certain varieties of paints from Bombay to Calcutta. The Central Government also made two applications to the Tribunal seeking enhancement of classification of (1) Wagon Light Railways. Wagon Railways unassembled component parts of and (2) glass sheets. One miscellaneous application to review the judgment in connection with the classification of stones as marble undressed instead of lime stone was also received.

Besides disposing of all the cases outstanding at the beginning of the year, the Tribunal disposed of one complaint by members of the public regarding rates for hemp jute and fibre, one application by the Central Government regarding classification of wagons and the only miscellaneous application received during the year. At the close of the year the Tribunal

had on hand pending final hearing and disposal four complaints from members of the public and one application from the Central Government.

The Tribunal also received several informal representations containing complaints in regard to which they advised the parties that they could take no cognizance of representations which were not submitted in accordance with the prescribed rules of procedure.

15. Implementation of decisions for division of rolling-stock between India and Pakistan.—No meeting of the Indo-Pakistan Stores Sub-Committee (Railways) could be held during this year also to settle the points of disagreement and to decide other outstanding issues. The outstanding matters were, however, pursued through correspondence as far as possible but the outcome has not been satisfactory and no appreciable progress has been made in the implementation of decisions already reached for the division of rolling-stock. Efforts were made to convene a meeting of the Indo-Pakistan Stores Sub-Committee during the year under report but it did not come off.

16. Loss of man-days as a result of strikes.—The total number of man-days lost as a result of strikes in workshops, running sheds, and other similar establishments of the Indian Government Railways during 1951-2 was approximately 0·013 per cent of the total man-days worked as against 0·121 per cent during 1950-1, thus recording an improvement as compared with the previous year. The number of man-days worked during 1950-1 and 1951-2 totalled 127,153,743 and 136,695,022 respectively and the man-days lost owing to strikes amounted to 153,537 and 17,353 respectively.

The details of the total number of man-days worked during 1950-1 and 1951-2 and the number of man-days lost by railways in consequence of strikes are summarized in the following table:

NUMBER OF MAN-DAYS WORKED AND LOST THROUGH STRIKES DURING 1950-1 AND 1951-2

Railways	Year	Number of man-days worked	Number of man-days lost owing to legal Strikes	Number of man-days lost owing to illegal Strikes
C. L. W.	1950-1	1,396,518	..	1,150
	1951-2	**1,702,681**	..	..
Central	1950-1	13,829,893	1,241	40,247
	1951-2	**13,634,902**	..	**10,589**
B. N.	1950-1	10,722,220	..	87,439
	1951-2	**12,635,168**	..	**228**
E. I.	1950-1	54,063,884	..	1,769
	1951-2	**54,926,483**	..	**5,397**
E. P.	1950-1	3,624,084	..	..
	1951-2	**3,751,429**	..	..
O. T.	1950-1	5,098,320	..	9
	1951-2	**6,066,480**	..	**405**
Assam	1950-1	12,786,434	..	..
	1951-2	**13,853,208**	..	**36**
Southern/*ex*-M. & S. M., *ex*-S. I.	1950-1	6,284,872	..	..
	,,	5,032,891	..	..
	1951-2	**12,939,791**	..	**57**
Western	1950-1	14,314,627	..	21,682
	1951-2	**17,184,880**	..	**641**
TOTAL	1950-1	127,153,743	1,241	152,296
	1951-2	**136,695,022**	..	**17,353**

CHAPTER II

FINANCIAL RESULTS

A. AGRICULTURAL CONDITIONS AND FOREIGN TRADE DURING 1951-2

17. Monsoon conditions and agricultural situation, 1951-2.—The economy of India which is predominantly agricultural in character is profoundly affected by monsoon conditions and the financial results of Railways are largely dependent upon the agricultural situation. The principal features of the year are briefly reviewed in the following paragraphs.

In 1951, the south-west monsoon extended vigorously over the country and by the middle of June, Assam experienced heavy rains causing floods in the river Brahmaputra and its tributaries and consequently paddy crop was damaged in the affected areas. On the other hand, Bihar, Bombay, Madhya Pradesh, Punjab and Vindhya Pradesh faced drought with the result that the seedlings began to dry up. There was recurrence of floods in Assam following heavy rains in the second half of July and third week of September seriously affecting the paddy crop. In the last week of July, floods caused damage to standing crops in parts of the Punjab, Bihar and the West Godavari district of Madras. Locusts also caused slight damage to crops in Madhya Pradesh, Orissa and Uttar Pradesh.

In the middle of October, however, drought conditions set in in Uttar Pradesh, the Punjab, Madhya Bharat, Vindhya Pradesh, Madhya Pradesh, Gujarat, Hyderabad and certain portions of Madras which seriously affected the outturn of *kharif* crops.

Over large areas of South and Peninsular India, late *kharif* crops, sown in September and October, depend for their growth on the post-monsoon and winter rains brought by the north-east monsoon during the four months of October to January. The north-east monsoon, failed over large parts of South India, resulting in damage to the *kharif* crops in parts of Madras.

The combined effect of the floods and excessive rains during June to August followed by a prolonged drought was that the year's *kharif* crops were adversely affected, particularly in Bombay, the Punjab, Uttar Pradesh, Madhya Bharat, Mysore, Rajasthan, Saurashtra, Travancore-Cochin and certain parts of Madras.

Rabi crops are generally sown during October to December and their growth depends on the rains during October to January. The drought, which started in the middle of October delayed the *rabi* sowings. Rainfall during the middle of December to middle of January helps the grain formation of *rabi* crops. The absence of early winter showers adversely affected the growth of *rabi* crops in parts of Madhya Pradesh, the Punjab, Uttar Pradesh, Madhya Bharat and Rajasthan. Hailstorm caused damage to the *rabi* crops in parts of Bihar during the first half of December, in parts of the Punjab in the third week of January, in parts of Madhya Pradesh in the third week of February, and in parts of Madhya Bharat towards the end of February.

The untimely rains during the months of March-May over north and central parts of the country caused damage to standing crops in Bihar, Madhya Pradesh, Rajasthan, Delhi and Vindhya Pradesh. Hailstorm in some parts of Uttar Pradesh also caused some damage to the crops.

During the year under review there was a general decrease in both area and production under foodgrains, the exceptions being the acreage under maize and barley, and production of rice, jowar and maize. The decline in production was significant in the case of *bajra, ragi,* and gram and was attributed partly to the corresponding decline in acreage and partly to the

adverse weather conditions at the time of sowing and maturity. In the case of cash crops, however, there was a general increase in area except in the case of linseed and tobacco and a decline in production in the case of sesamum, groundnut, linseed and tobacco.

The percentage variations as compared with the previous year, in acreage and yield of principal crops according to latest available information are shown in the following table:—

VARIATION IN ACREAGE AND YIELD OF PRINCIPAL CROPS IN 1951-2

(Percentage increase or decrease over 1950-1)

Crop	*Acreage* Per cent	*Yield* Per cent
Rice	− 3·2	+ 1·4
Wheat	− 2·6	− 8·4
Jowar	− 0·2	+ 2·1
Bajra	− 2·0	−15·7
Maize	+ 3·1	+15·2
Ragi	− 2·8	−17·1
Barley	+ 1·4	− 8·6
Gram	−11·8	−14·5
Sugarcane	+12·2	+ 5·0
Sesamum	+ 1·8	− 2·6
Groundnut	+ 5·6	−11·6
Rape and mustard	+12·0	+20·3
Linseed	− 4·3	−14·4
Castor	+ 3·3	...
Cotton	+12·3	+13·6
Jute	+34·2	+41·7
Tobacco	−16·9	−16·4

18. Trade review.—The improvement recorded in the foreign sea and air-borne import and export trade of India during the last few years was maintained during 1951-2. Both imports and exports registered increases while re-exports declined as compared with 1950-1.

The total recorded value of imports of foreign merchandise rose by Rs. 294 crores or about 52 per cent from Rs. 567 crores in 1950-1 to Rs. 860 crores in 1951-2. Increases were noticeable mainly under wheat, cotton raw, rice not in the husk, chemicals, petroleum, primemovers other than electrical, drugs and medicines, electrical machinery, lubricating oil, paper, fuel oil, tubes, pipes and fittings wrought, agricultural tractors and parts, artificial silk yarn, coal-tar dyes, cycles, farinaceous and patent foods, motor cars, hardware, betelnuts, tin unwrought, plastic materials and manufactures and cotton piecegoods. There were, however, decreases under sulphate of ammonia, tobacco unmanufactured and wheat flour.

The total recorded value of exports increased by Rs. 123 crores or 21 per cent from Rs. 579 crores in 1950-1 to Rs. 702 crores in 1951-2. The items mainly responsible for the increase were gunny bags, gunny cloth, black tea, cotton raw, manganese ore, linseed oil, mica, lac, pepper, castor oil and hides, tanned or dressed. Noticeable decreases were, however, recorded under mill-made cotton piecegoods, cotton twist and yarn, groundnut oil, castor seeds, cotton waste, cashew kernels, wool raw, skins tanned or dressed, cotton piecegoods (handloom), groundnut seeds and skins, raw.

The total recorded value of re-exports declined from Rs. 28 crores in 1950-1 to Rs. 14 crores in 1951-2. Raw jute mainly accounted for the decrease.

B. FINANCIAL RESULTS OF INDIAN RAILWAYS (INCLUDING WORKED LINES)

19. Financial results of working.—The gross traffic receipts of Indian Railways, including the worked lines, for the year 1951-2 amounted to Rs. 290·82 crores as compared with Rs. 263·01 crores in 1950-1, or an increase of Rs. 27·81 crores.

The ordinary working expenses for the year amounted to Rs. 194·04 crores as against Rs. 180·23 crores in 1950-1, or an increase of Rs. 13·81 crores. The contribution to the depreciation reserve fund was Rs. 30·21 crores against Rs. 30 crores during 1950-1. Of this amount, the sum of Rs. 30 crores is on account of the Indian Railways capital assets chargeable to their working expenses, while the balance of Rs. 21 lakhs is on account of capital assets of Chittaranjan Locomotive Works by debit to manufacture suspense account. The additional contribution of Rs. 21 lakhs as a charge against Capital was necessitated in the interests of accurate costing on commercial principles, and this represents the depreciation charges accruing on account of plant and machinery, etc., at Chittaranjan Locomotive Works as an item of cost of the different jobs undertaken. Payments to worked lines as their share of net earnings amounted to Rs. 31 lakhs as against Rs. 25 lakhs in 1950-1. The operating ratio, that is the ratio of working expenses (excluding suspense, but including appropriation to depreciation reserve fund) to gross earnings, was 77·37 per cent against 81·01 per cent in 1950-1.

The net result of miscellaneous transactions during the year was *minus* Rs. 4·72 crores against *minus* Rs. 4·97 crores in 1950-1.

The net revenue for the year was Rs. 61·75 crores as against Rs. 47·56 crores in the previous year.

The dividend paid to General Revenues during the year was Rs. 33·41 crores as against Rs. 32·51 crores in 1950-1.

The surplus for the year amounted to Rs. 28·34 crores against Rs. 15·05 crores in 1950-1, *i.e.*, an increase of Rs. 13·29 crores. This was allocated to development and reserve funds as follows:—

	Rs. (in crores)
Development fund	10·00
Revenue Reserve fund	18·34

The interest on the depreciation fund balances, credited to the Fund during the year under review, amounted to Rs. 3·58 crores. The amount withdrawn during the year for renewals was Rs. 35·87 crores against Rs. 26·62 crores in 1950-1 and the net charge against the fund in 1951-2 was Rs. 2·08 crores against accretion to the fund of Rs. 6·97 crores in 1950-1. The balance in the depreciation reserve fund at the end of the year, including the provisional balance of Rs. 8·12 crores of the *ex*-States' Railways, was Rs. 122·02 crores as against Rs. 123·65 crores at the end of 1950-1.

The works expenditure during the year amounted to Rs. 59·08 crores as against Rs. 52·03 crores in 1950-1. Of this, an amount of Rs. 23·21 crores was charged to capital and Rs. 35·87 crores to the depreciation reserve fund.

20. Traffic receipts.—The total traffic receipts of the Indian Railways, excluding the worked lines, amounted to Rs. 289·74 crores. The details are given in the subjoined statement.

EARNINGS AND NET TRAFFIC RECEIPTS OF INDIAN RAILWAYS

(In crores of rupees)

	1949-50	1950-1	1951-2
Passenger earnings	86·35	97·84	1,09·88
Other coaching earnings	17·46	16·76	19·87
Goods earnings	1,30·37	1,43·01	1,56·79
Sundry earnings	4·94	4·74	5·05
Suspense	—2·77	0·66	—0·77
TOTAL	2,36·35	2,63·01	2,90·82
Less earnings of worked lines	4·95	1·01	1·08
Net traffic receipts	2,31·40	2,62·00	2,89·74

21. Working expenses.—The working expenses of each railway are given in Statements 3 and 7 of Volume II of this report.

A comparison of ordinary working expenses (excluding suspense) under the various heads for the year 1951-2 with those for 1950-1 is given in the following statement.

ANALYSIS OF WORKING EXPENSES, INDIAN GOVERNMENT RAILWAYS

(In crores of Rs.)

Demand heads	1950-1	1951-2	Increase (+) Decrease (—) over 1950-1
Administration	23·36	24·62	+1·26
Repairs and maintenance	57·11	62·57	+5·46
Operating staff	35·41	38·93	+3·52
Operation (Fuel)	30·72	31·00	+·28
Operation other than staff and fuel	13·35	14·40	+1·05
Miscellaneous expenses	19·47	20·49	+1·02
Labour welfare	3·11	3·60	+·49
TOTAL	1,82·53	1,95·61	+13·08

As compared with 1950-1 there was an increase of Rs. 13·08 crores in working expenses during 1951-2. The excesses occurred under all demand heads. The more important factors contributing to the increase under all demands are:—(1) the grant of an *ad hoc* increase of Rs. 5 *per mensem* in dearness allowance with effect from 1 June 1951 to all staff drawing Rs. 300 *per mensem* and below, (2) rise in prices during 1951-2, both of food commodities and of loco spares, components and miscellaneous stores required for the maintenance of stock, electrical services, etc., and operation of the railways, (3) extra expenditure involved as a result of the implementation of Adjudicators award, Joint Advisory Committee's recommendations and on the *ex*-States' Railways Central Pay Commission's recommendations.

The increase under the head "Operation other than staff and fuel" was mainly due to more payments of compensation for goods lost or damaged.

The excess under the head "miscellaneous expenses" is attributable to an increase in the contribution to the Provident Fund in respect of temporary staff now confirmed and more expenditure on gratuities and special contribution to provident fund.

An analysis of the financial results of the working of the Indian Government Railways showing the capital-at-charge, gross receipts, working expenses, net revenue receipts and dividend, etc., by each railway for the last three years is given in the following statement.

FINANCIAL RESULTS OF WORKING OF INDIAN RAILWAYS

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by companies and Indian States	Net Government capital-at-charge	Gross receipts	Working expenses including suspense and depreciation reserve fund	Payment to worked lines	Net revenue receipts	Percentage of Net revenue receipts on capital-at-charge	Charges against Net revenue receipts: interest charges	Net gain or loss to Government: gain	Net gain or loss to Government: loss	Remarks
Assam	1949-50	30,50,70	3,00	30,47,70	4,60,13	8,10,16	5,23	−3,55,26	−11·64	95,02	..	4,50,28	
	1950-1	33,10,20	3,00	33,07,20	7,08,40	10,78,19	2,97	−3,72,76	−11·26	1,30,20	..	5,02,96	
	1951-2	**41,62,35**	**3,00**	**41,59,35**	**9,22,83**	**12,01,07**	**3,75**	**−2,81,99**	**−11·26**	**1,64,82**	..	**4,46,81**	
Assam Rail Link Project	1949-50	6,09,70	..	6,09,70	..	..	..	..	..	15,09	..	15,09	Amalgamated with Assam Railway in 1951-2
	1950-1	7,53,70	..	7,53,70	..	..	..	..	..	27,27	..	27,27	
Darjeeling Himalayan	1949-50	1,11,19	..	1,11,19	29,85	44,34	..	−14,49	−13·04	3,52	..	18,01	Amalgamated with Assam Railway in 1950-1
Bengal Nagpur	1949-50	86,26,14	..	86,26,14	27,49,45	23,73,91	11	3,75,43	4·58	2,71,52	1,03,91	..	
	1950-1	87,12,76	..	87,12,76	30,14,69	23,16,60	..	6,98,09	8·01	3,46,78	3,51,31	..	
	1951-2	**91,07,64**	..	**91,07,64**	**32,33,66**	**25,94,00**	..	**6,39,66**	**7·09**	**3,56,44**	**2,83,22**	..	
Bikaner State	1950-1	4,73,68	..	4,73,68	1,41,16	1,08,76	..	32,40	6·84	18,82	13,58	..	Taken over from 1.4.50
	1951-2	**4,66,26**	..	**4,66,26**	**1,82,32**	**1,25,11**	..	**57,21**	**12·27**	**18,62**	**38,59**	..	
Central	**1951-2**	**1,64,06,01**	..	**1,64,06,01**	**55,86,65**	**39,93,99**	**11,11**	**15,81,55**	**9·64**	**6,44,54**	**9,37,01**	..	Formed during 1951-2
Great Indian Peninsula	1949-50	1,33,55,73	..	1,33,55,73	43,51,41	32,18,17	58,69	10,74,55	8·04	4,09,58	6,64,97	..	Amalgamated with Central Railway in 1951-2
	1950-1	1,38,56,85	..	1,38,56,85	44,31,63	32,26,62	8,93	11,96,08	8·63	5,48,75	6,47,33	..	
Bezwada Extension and Dhone Kurnool	1949-50	46,25	..	46,25	45,25	33,68	..	11,57	25·00	1,47	10,10	..	Amalgamated with N. S. Railway in 1950-1

FINANCIAL RESULTS OF WORKING OF INDIAN RAILWAYS—*contd.*

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by companies and Indian States	Net Government capital-at-charge	Gross receipts	Working expenses including suspense and depreciation reserve fund	Payment to worked lines	Net revenue receipts	Percentage of Net revenue receipts on capital-at-charge	Charges against Net revenue receipts: interest charges	Net gain or loss to Government: gain	Net gain or loss to Government: loss	Remarks
Nizam's State	1950-1	18,06,98	..	18,06,98	6,95,55	4,23,39	..	2,72,16	15·06	71,20	2,00,96	..	Taken over from 1 April 1950 and amalgamated with Central Railway in 1951-2
Dholpur State	1950-1	20,14	..	20,14	6,34	4,39	..	1,95	9·63	80	1,15	..	
Scindia State	1950-1	1,32,07	..	1,32,07	30,33	34,14	..	−3,81	−2·89	5,31	..	9,12	
East Indian	1949-50	1,93,93,71	..	1,93,93,71	60,32,81	48,01,95	..	12,30,86	6·35	6,37,95	5,92,91	..	
	1950-1	1,96,38,24	..	1,96,38,24	61,15,18	50,16,74	..	10,98,44	5·60	7,80,64	3,17,80	..	
	1951-2	**1,97,81,12**	..	**1,97,81,12**	**67,32,22**	**52,16,82**	..	**15,15,40**	**7·66**	**7,88,39**	**7,27,01**	..	
Eastern Punjab	1949-50	49,41,20	..	49,41,20	14,65,34	11,95,77	50,43	2,19,14	4·44	1,55,66	63,48	..	
	1950-1	53,47,84	..	53,47,84	12,51,55	12,40,38	4,89	6,28	0·12	2,06,08	..	1,99,80	
	1951-2	**55,37,62**	..	**55,37,62**	**15,55,70**	**12,73,83**	..	**2,81,87**	**5·09**	**2,07,99**	**73,88**	..	
Jodhpur	1950-1	5,44,81	..	5,44,81	1,92,47	1,42,55	..	49,92	9·16	21,80	28,12	..	Taken over from 1 April 1950
	1951-2	**5,49,22**	..	**5,49,22**	**1,97,66**	**1,51,79**	..	**45,87**	**8·35**	**21,88**	**23,99**	..	
Oudh Tirhut	1949-50	35,76,14	..	35,76,14	12,62,21	13,52,07	..	−89,86	−2·51	1,09,77	..	1,99,63	
	1950-1	37,23,86	..	37,23,86	11,79,79	12,02,84	..	−23,05	−0·62	1,45,92	..	1,68,97	
	1951-2	**38,49,51**	..	**38,49,51**	**14,35,82**	**12,73,22**	..	**1,62,60**	**4·22**	**1,51,47**	**11,13**	..	
Southern	**1951-2**	**1,15,65,13**	**80,47**	**1,14,84,66**	**46,81,74**	**34,86,03**	**16,52**	**11,79,19**	**10·20**	**4,57,19**	**7,22,00**	..	Formed during 1951-2
Madras and Southern Mahratta	1949-50	57,17,44	..	57,17,44	21,57,08	18,27,99	3,11	3,25,98	5·70	1,94,24	1,31,74	..	Amalgamated with Southern Railway in 1951-2
	1950-1	58,54,36	..	58,54,36	23,86,49	18,01,17	79	5,84,53	9·98	2,32,08	3,52,45	..	

Mysore	1950-1	7,64,87	..	7,64,87	2,60,09	2,07,35	69	52,05	6·80	30,54	21,51	..	Taken over from 1 April 1950 and amalgamated with Southern Railway in 1951-2
South Indian	1949-50	46,43,30	80,47	45,62,83	16,86,56	14,39,37	25,30	2,21,89	4·71	1,33,71	88,18	..	Amalgamated with Southern Railway in 1951-2
	1950-1	49,08,27	80,47	48,27,80	17,78,89	14,36,75	7,19	3,34,95	6·83	1,91,81	1,43,14	..	
Western	**1951-2**	**1,11,13,73**	..	**1,11,13,73**	**45,53,11**	**30,88,93**	..	**14,64,18**	**13·17**	**4,38,36**	**10,25,82**	..	Formed during 1951-2
Bombay, Baroda and Central India	1949-50	81,14,44	1,27,97	79,86,47	33,80,30	22,04,85	37,41	11,38,04	14·02	2,53,15	8,84,89	..	Amalgamated with Western Railway in 1951-2
	1950-1	91,18,16	..	91,18,16	36,92,73	24,02,35	..	12,90,38	14·15	3,57,04	9,33,34	..	
Cutch State	1950-1	32,69	..	32,69	8,56	8,13	..	43	1·32	1,28	..	85	Taken over from 1 April 1950 and amalgamated with Western Railway in 1951-2
Jaipur State	1950-1	2,60,61	..	2,60,61	50,54	38,29	..	12,25	4·70	9,34	2,91	..	
Rajasthan State	1950-1	1,88,66	..	1,88,66	42,33	38,60	..	3,73	1·98	7,57	..	3,84	
Saurashtra	1950-1	11,84,72	..	11,84,72	3,14,68	2,94,83	..	19,85	1·68	47,45	..	27,60	
Gaekwar Baroda State (K. D., P. K. and Okhamandal Sections)	1949-50	2	..	2	13,98	13,80	..	18	..	..	18	..	Amalgamated with Saurashtra Railway from 1 April 1950
Chittaranjan Locomotive Works	1949-50	7,09,60	..	7,09,60	..	..	..	..	..	14,35	..	14,35	
	1950-1	13,25,32	..	13,25,32	..	..	..	..	..	40,70	..	40,70	
	1951-2	**17,11,26**	..	**17,11,26**	..	..	..	..	..	**60,74**	..	**60,74**	
Coal Department	1949-50	7,18,63	..	7,18,63	..	..	..	..	..	22,41	..	22,41	
	1950-1	7,45,00	..	7,45,00	..	..	..	..	..	29,27	..	29,27	
	1951-2	**7,41,21**	..	**7,41,21**	..	..	..	..	..	**29,72**	..	**29,72**	

FINANCIAL RESULTS OF WORKING OF INDIAN RAILWAYS—*concld.*

(Figures in thousands of rupees)

Railways	Year	Capital-at-charge	*Deduct*—Amount of capital contributed by companies and Indian States	Net Government capital-at-charge	Gross receipts	Working expenses including suspense and depreciation reserve fund	Payment to worked lines	Net revenue receipts	Percentage of Net revenue receipts on capital-at-charge	Charges against Net revenue receipts	Net gain or loss to Government		Remarks
										interest charges	gain	loss	
Others	1949-50	..	..	..	..	−5,57	..	5,57	..	−21	5,78	..	
	1950-1	..	..	..	..	76	..	−76	..	..	..	76	
	1951-2	**20,05**	..	**20,05**	..	**−1,06**	..	**1,06**	..	**40**	**66**	..	
Interest on Depreciation reserve fund balances	1949-50	..	..	..	3,55,53	..	..	3,55,53	..	..	3,55,53	..	
	1950-1	..	..	..	..	..	..	..	..	..	..	..	
	1951-2	..	..	..	..	..	..	..	..	..	..	..	
Net Miscellaneous Receipts and charges not attributable to any one railway	1949-50	..	..	..	..	..	..	..	..	..	..	7,22,54	
	1950-1	..	..	..	..	..	..	..	..	..	..	4,97,15	
	1951-2	..	..	..	..	..	..	..	..	..	..	**4,71,97**	
TOTAL	1949-50	7,36,14,19	2,11,44	7,34,02,75	2,39,89,90	1,93,10,49	1,80,28	44,99,13	6·11	23,17,23	14,59,36	..	
	1950-1	8,27,03,79	83,47	8,26,20,32	2,63,01,40	2,10,22,83	25,46	52,53,11	6·36	32,50,65	15,05,31	..	
	1951-2	**8,50,11,11**	**83,47**	**8,49,27,64**	**2,90,81,71**	**2,24,03,73**	**31,38**	**66,46,60**	**7·82**	**33,40,56**	**28,34,07**	..	

NOTES.—1. The figures of capital-at-charge are provisional pending closing of pre-partition accounts, and the finalization of the balances of the *ex*-State Railways brought forward on the 1 April 1950.

2. The figures for 1950-1 and 1951-2 in the column 'interest charges' represent 'dividend to general revenues' as computed in terms of the revised Railway Convention.

22. Gain or losses.—The net results of working stated in terms of gains and losses recorded by each railway for the three years are summarized in a comparable form in the following statement:

GAINS OR LOSSES IN WORKING, INDIAN GOVERNMENT RAILWAYS

(In lakhs of rupees)

	1949-50	1950-1	1951-2
Assam	−4,50	−5,03	**−4,47**
Bengal Nagpur	1,04	3,51	**2,83**
Bikaner State	—	14	**39**
Central	6,65	8,40	**9,37**
East Indian	5,93	3,18	**7,27**
Eastern Punjab	63	−2,00	**74**
Jodhpur	—	28	**24**
Oudh Tirhut	−2,00	−1,69	**11**
Southern	2,20	5,16	**7,22**
Western	8,85	9,63	**10,26**
Total	18,80	21,58	**33,96**

The *ex*-States' railways were taken over on 1 April 1950 and consequently their figures for the year 1949-50 are not available. The results of the constituent lines of the Central, Southern and Western railways prior to their regrouping are shown in a single figure against these three regrouped railways for facility of comparison. During 1951-2 only one railway shows loss, namely, the Assam railway.

23. Development fund.—During the year, the Fund received a credit of Rs. 10·65 crores, including interest, while Rs. 7·70 crores were withdrawn from it for meeting expenditure chargeable thereto, giving a net credit of Rs. 2·95 crores to the Fund. The closing balance at credit of the Fund on 31 March 1952 was Rs. 22·48 crores which includes Rs. 55·62 lakhs on account of Indian States' railways taken over from 1 April 1950.

C. GENERAL RESULTS OF WORKING OF ALL INDIAN RAILWAYS

24. Analysis of earnings.—The total earnings of all Class I, II and III railways for the year 1951-2 including those in which the Government of India have no financial interest, amounted to Rs. 294·14 crores, of which Rs. 153·95 crores or 52·4 per cent was from goods traffic, Rs. 111·42 crores or 37·8 per cent from passenger traffic and Rs. 28·77 crores or 9·86 per cent from parcels, luggage and other miscellaneous sources of revenue.

25. Traffic and mileage.—The more important figures of traffic on all Indian railways for the years 1949-50 to 1951-2 are summarized in the table below. There has been a progressive increase in the volume of goods traffic carried during the last three years. As regards passenger traffic, there has been a slight decrease as compared with the last year. The figures of railways shown under "Class I" and "Other" railways for 1949-50 are not strictly comparable with those for 1950-1 and 1951-2 as a result of absorption of smaller lines in the larger systems owing to the financial integration of the *ex*-States' railways, regrouping, etc.

STATISTICS OF TRAFFIC OF ALL INDIAN RAILWAYS

—		Year	Class I railways	Other railways	Total of all railways
Total route mileage		1949-50	31,010·37	3,011·92	34,022·29
		1950-1	33,302·84(a)	776·10(a)	34,078·94
		1951-2	**33,343·34**	**776·10**	**34,119·44**
Passengers originating	(in millions)	1949-50	1,195	60	1,255
		1950-1	1,279(a)	29(a)	1,308
		1951-2	**1,204**	**28**	**1,232**
Passenger miles	(in millions)	1949-50	38,465	1,555	40,020
		1950-1	41,160(a)	512(a)	41,672
		1951-2	**39,030**	**521**	**39,551**
Tons originating	(in millions)	1949-50	88	4	92
		1950-1	91(a)	1(a)	92
		1951-2	**97**	**1**	**98**
Net ton miles	(in millions)	1949-50	25,119	346	25,465
		1950-1	26,963(a)	45(a)	27,008
		1951-2	**28,966**	**52**	**29,018**

(a) Revised

26. Passenger earnings.—As compared with 1950-1, passenger earnings on all Indian Railways increased by about 12·20 crores or 12·3 per cent, despite a decrease by about 76 millions or 5·79 per cent in number of passengers carried and about 2,121 millions or 5·09 per cent in passenger miles performed. This was mainly due to an increase in fares introduced with effect from 1 April 1951.

The earnings of all Indian railways from passenger traffic for the three years 1949-50 to 1951-2 are summarized in the table below:

(In lakhs of rupees)

	1949-50	1950-1*	1951-2
First Class/Class I (including Air-conditioned)	3,83	2,66	**2,44**
Second Class/Class II Special	94†	4,54	**4,57**
Inter Class/Class II	9,01	6,56	**6,68**
Third Class	81,47	85,46	**97,73**
Total	95,25	99,22	**1,11,42**

* Revised.
† Represents earnings for four months only when Class II Special was introduced.

Variations in passenger traffic and earnings of the Class I railways are indicated below.

VARIATIONS IN PASSENGER TRAFFIC AND EARNINGS—CLASS I RAILWAYS

Railways	Increase (+) or decrease (−) as compared with 1950-1: Passengers carried (in millions)	Earnings (in lakhs) Rs.
Assam	+ 0·4	+ 63
Bengal Nagpur	− 7·5	− 4
Bikaner	Nil	+ 22
Central	− 5·6	+1,68
East Indian	− 2·9	+2,28
Eastern Punjab	− 5·1	+ 91
Jodhpur	− 0·6	− 3
Oudh Tirhut	+ 8·0	+1,30
Southern	−41·5	+2,85
Western	−21·6	+2,25

Detailed figures of the number of passengers carried, passenger miles and earnings are given in Summary X and Statements 12 and 36 of Vol. II of this Report.

27. **Goods earnings.**—As compared with 1950-1, goods earnings on all Indian railways reflected the effects of a general increase in the volume of traffic. Earnings stood higher by about Rs. 14·18 crores, or by 10·2 per cent. Tonnage of goods carried increased by about 5·69 millions, or by 6·16 per cent. Each ton of freight was carried on an average over a distance of 296·0 miles as compared with 292·5 miles during 1950-1. Net ton miles showed an increase of about 2,010·14 millions, an increase of 7·44 per cent.

The statement below gives details of the earnings from principal commodities carried by Class I railways during 1950-1 and 1951-2. It may be seen from this statement that barring rice not in the husk, oilseeds, wood unwrought, and iron and steel wrought, there have been, in respect of all the other commodities, more receipts from traffic carried during 1951-2 than during 1950-1.

(Figures in lakhs of rupees)

	1950-1	1951-2
Gram and pulse	4,48	**4,78**
Wheat and wheat flour	3,46	**6,05**
Rice not in the husk	3,52	**2,57**
Oilseeds	3,89	**3,72**
Fruits and vegetables fresh	2,65	**2,73**
Coal, coke and patent fuel for the public	15,85	**16,16**
Coal, coke and patent fuel for foreign railways and home line construction	3,83	**4,24**
Marble and stone	2,75	**3,04**
Salt	3,13	**3,19**
Petrol in bulk	2,99	**3,68**
Wood, unwrought	2,84	**2,62**
Sugar, refined and unrefined	2,95	**3,18**
Cotton manufactured	2,90	**3,35**
Cement	3,55	**4,13**
Iron and steel wrought	9,34	**9,01**
Material and store on revenue account	8,19	**9,24**

The variations in goods traffic on Class I Railways are indicated below. All railways registered substantial increases over the previous year, exceptions being only the Central, Jodhpur and Southern, which recorded slight decreases.

VARIATIONS IN VOLUME OF GOODS TRAFFIC

(Figures in thousands)

Railways	Increase (+) or decrease (−) as compared with 1950-1 — Tons carried
Assam	+ 975
Bengal Nagpur	+2,654
Bikaner State	+ 44
Central	− 828
East Indian	+2,320
Eastern Punjab	+ 543
Jodhpur	− 20
Oudh Tirhut	+ 306
Southern	− 813
Western	+ 109

Detailed statistics of goods traffic are given in Summary X, Statements 13,29 and 36 of Volume II of this Report.

28. Measures relating to statistics and statistical organization.—Some of the important steps towards improving railway statistics and statistical procedure taken during the year are referred to below.

There was a conference of Statistical and Compilation Officers of all Class I railways which was in session in New Delhi from 19 November to 21 November 1951. The conference discussed several problems relating to compilation of statistical data on railways and took decisions on a number of important subjects.

During the year a new publication entitled 'Monthly Railway Statistics' was brought out, consolidating in a single volume up to date information relating to monthly earnings, wagon loadings, tons lifted, commercial, operating and rolling-stock statistics of all Class I Railways.

Among the procedural changes effected during the year, mention may be made of the change in the method of the compilation of the tri-monthly approximate earnings of Indian Government railways. Under the revised procedure, the Railways are required to report the tri-monthly figures of approximate gross earnings on the basis of originating traffic, *i.e.,* the total approximate gross earnings, both 'paid' and 'to pay', on all originating traffic as recorded at the stations belonging to it without apportionment. The new procedure is expected to give approximate earnings to a greater degree of accuracy, as the work of apportioning earnings among railways on the basis of railway-wise share of traffic carried is eliminated.

Another important change introduced during the year related to the instructions for reporting railway accidents. The rules on the basis of which information on railway accidents was being reported by railways had become out-of-date. Owing to differences in interpretation of definitions it was found that there was some lack of uniformity in the basis of data received from railways. A comprehensive revision of the rules was undertaken and revised rules taking into account the changed requirements and the need for more precise definitions were brought into effect during the year. The revised instructions not only have achieved greater uniformity in the reporting procedure, they have also brought the accident statistics of Indian railways into better accord with international statistics.

Another important step taken was the adoption of a more satisfactory formula for the division of working expenses between 'passenger' and 'goods' services instead of the previous *ad hoc* method based on gross ton miles. The procedure now introduced endeavours to distribute different categories of expenditure as far as possible on actuals and the items not susceptible of direct allocation are distributed on more closely related indices. Lack of accurate data on the cost of working a passenger and a goods unit has been a long felt deficiency in the study of questions of rates and fares and the revised procedure is expected to afford greater precision to these averages.

Critical examination of statistical results reported by Railways has now become part of the regular work of the Statistical Branch of the Railway Board, and satisfactory results have been achieved.

CHAPTER III

TRANSPORTATION

A.—OPERATING

29. Operating General.—During the year under review, the punctuality of mail and important through passenger trains registered an appreciable improvement both on the metre and on the broad gauges. On the metre gauge, the percentage of such trains not losing time increased from 68 during the previous year to 73 during the year, while on the broad gauge the increase was from 69 to 74.

Reference was made in the last report to the introduction of fast trains exclusively catering for third class passengers, named *Janta* Expresses. During 1951-2, three more such trains were introduced. One was a daily *Janta* Express from 1 July 1951 onwards on the Assam Railway between Katihar and Amingaon. Another was a weekly *Janta* Express from 6 November 1951 onwards between Delhi and Bezwada. From the same date a daily *Janta* Express was introduced to run between Madras and Calcutta.

The operating position as a whole improved during the year and the Railways were able to implement fully not only the demands made for clearance of foodgrain traffic from the ports, but also that to Bihar, Gujerat, Saurashtra and Bombay to combat scarcity in those areas. Generally, movement of freight traffic over the broad gauge was smooth and loading free except *via* certain junctions and transhipment points, movements through which were governed by quotas. The position on the metre gauge was not so satisfactory owing mainly to shortage of metre gauge stock.

Instructions have been issued to the Railways to run the maximum number of goods trains to regular daily schedules in order that engine links could be adopted in the same manner as for passenger trains.

Endeavours are being made by the Railways to augment capacity of certain sections by increasing the number of wagons cleared by through trains by using more powerful locomotives and extending the loops at the stations.

30. Transport of coal.—During the year the control and distribution of coal continued as before through the Coal Commissioner's Office under the administrative control of the Ministry of Works, Production and Supply.

There was general improvement in the loading of coal in all the coal-fields as compared with the previous year. In terms of broad gauge wagons about 72,286 more wagons were loaded with coal than during the previous year representing an increase of approximately 5·6 per cent. Taking the major coalfields, *viz.*, those in the West Bengal and Bihar separately, approximately 59,667 more wagons were loaded with coal than during the previous year, representing an increase of about 5·7 per cent.

The movement of coal like that of other essential traffic, was subject to the limitations of availability of rolling-stock (wagons and engines) and of the availability of capacity over certain sections such as to the South, even if the rolling-stock were available in greater numbers.

31. Movement of certain commodities by special trains.—Special goods trains continued to be operated to carry specified commodities between certain stations during the year under report. The percentage of the total wagon loads of traffic moved by such special trains on the broad gauge railways increased from about 8·24 per cent in 1950-1 to about 8·71 per cent of the total wagon loadings excluding coal and coke and home line stores and material.

32. Volume of traffic handled.—The upward trend in the volume of passenger traffic which continued till 1950-1 suffered a set-back during the year and passenger traffic in terms of passenger miles dropped by 5·17 per cent as compared with the previous year to 39,030 millions. Goods traffic, however, recorded a further improvement as indicated by net ton miles, which increased by 7·55 per cent to 28,728 millions. As compared with the pre-war figure, the goods traffic on Class I Railways during 1951-2 was up by 54·18 per cent and passenger traffic, despite the recession as compared to previous year, stood 152·68 per cent higher. The fluctuations registered under passenger and goods services on Class I Railways are shown in the table below:

VOLUME OF TRAFFIC CARRIED ON CLASS I RAILWAYS, NET TON MILES AND PASSENGER MILES

(Figures in millions)

	1938-9 (pre-war)	1950-1	1951-2	Increase or decrease % over 1938-9	Increase or decrease % over 1950-1
All Class I Railways—					
Net ton miles*	..	26,710	**28,728**	..	+7·55
Passenger miles	..	41,159	**39,030**	..	—5·17
Class I Railways excluding Assam, E. P. and E. I. (N. G.)—					
Net ton miles*	17,732	25,538	**27,339**	+54·18	+7·05
Passenger mile	13,904	37,283	**35,132**	+152·68	—5.77

* Excludes departmental.

33. Train miles.—The train mileage operated during the year was 177·72 millions, an increase of 7·14 millions or 4·17 per cent over the figure for 1950-1.

TRAIN MILES RUN DURING 1951-2 COMPARED WITH 1938-9 AND 1950-1

(Figures in thousands)

	1938-9 (pre-war)	1950-1	1951-2	Increase or decrease % over 1938-9	Increase or decrease % over 1950-1
All Class I Railways—					
Passenger (including proportion of mixed.)*	..	101,269	**104,636**	..	+3·32
Goods (including proportion of mixed)†	..	69,307	**73,079**	..	+5·44
Class I Railways excluding Assam, E. P. and E. I. (N. G.)—					
Passenger (including proportion of mixed.)*	87,482	91,040	**93,639**	+7·04	+2·85
Goods (including proportion of mixed)†	54,436	64,812	**67,943**	+24·81	+4·83

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, the mileage of electric locomotive and electric multiple trains as well as military specials, but excludes departmental trains.

† Includes mileage of electric locomotive trains, but excludes departmental.

Passenger train miles increased during the year by 3·32 per cent to 104·64 millions, as compared with a decrease of 5·17 per cent in passenger miles. Goods train miles totalled 73·08 millions, representing an increase of 5·44 per cent over the figure for the previous year, which is less than the extent of the increase in the number of net ton miles during the year. Consequently, the average freight load of goods trains recorded an increase of 1·67 and 2·74 per cent on the broad gauge and metre gauge respectively over the previous year.

The performance during the year (exclusive of Assam, Eastern Punjab and East Indian, Narrow Gauge, railways) as compared with 1938-9 indicates that railways carried 152·68 per cent more passenger traffic with only 7·04 per cent more of passenger train services, whilst 54·18 per cent more goods traffic was carried with an increase of only 24·81 per cent in goods train miles.

Detailed figures of train miles of Class I Railways are shown in Statements 17 and 32 and those of Class II and III Railways in Statement 37 of Volume II of this report.

34. **Shunting miles.**—Unproductive engine miles, classified under the head 'Other engine mileage', showed, during the year a further decline over the previous year from 22·9 to 22·7 per cent of the total engine mileage.

Shunting miles, forming the greater portion of such unproductive mileage, amounted to 15·07 per cent of the total engine miles as against 15·09 per cent during 1950-1. The following table shows the ratio per 100 train miles of passenger and goods shunting miles of Class I Railways during 1951-2 compared with 1950-1. It will be seen that as compared with the previous year less shunting miles were performed to move 100 train miles in respect of goods services on the broad gauge while on the metre gauge the results have deteriorated, especially under passenger services.

SHUNTING MILEAGE DURING 1950-1 AND 1951-2:
CLASS I RAILWAYS

Shunting miles per 100 train miles	1950-1	1951-2	Increase or decrease % over 1950-1
Passenger and proportion of mixed—			
Broad gauge	6·13	6·13	*Nil*
Metre gauge	6·34	6·88	+8·51
Goods and proportion of mixed—			
Broad gauge	39·8	38·5	−3·27
Metre gauge	40·8	41·1	+0·73

Other principal features of passenger and goods train operation of Class I Railways during the year have been referred to in the following paragraphs.

35. **Passenger trains.**—It will be seen from the table below that on the broad gauge, passenger train services increased by 3·50 per cent and vehicle miles by 4·36 per cent. The corresponding percentage increases on the metre gauge were 3·12 and 1·31 respectively. Passenger miles, however, decreased by 6·13 per cent on the broad gauge and by 2·76 per cent on the metre gauge. These figures indicate a slight relief to overcrowding on Class I Railways, particularly on the broad gauge.

STATISTICS OF PASSENGER TRAFFIC: CLASS I RAILWAYS

(Figures in millions)

Particulars	Broad gauge		Increase or decrease % over 1950-1	Metre gauge		Increase or decrease % over 1950-1
	1950-1	**1951-2**		1950-1	**1951-2**	
Passenger miles	27,701·2	**26,000·0**	—6·13	12,812·4	**12,458·6**	—2·76
Coaching vehicle miles (including proportion of mixed).	957·0	**998.7**	+4·36	566·1	**573·5**	+1·31
Passenger train miles* (including proportion of mixed).	63·06	**65.27**	+3·50	35·31	**36·41**	+3·12

* Includes the mileage of trains conveying passengers and of all other traffic booked at coaching rates, empty mileage run by passenger and other coaching stock, mileage of electric locomotives and electric multiple unit suburban trains as well as military specials but excludes departmental.

36. **Punctuality of passenger trains.**—Punctuality of passenger train services, excepting the electric multiple unit suburban trains on the broad gauge, improved perceptibly on both broad and metre gauges as compared with the previous year.

The following table shows the percentage of passenger trains not losing time to the total number of trains run on all Class I Railways during 1951-2 as compared with 1950-1.

PERCENTAGE OF PASSENGER AND MIXED TRAINS NOT LOSING TIME

Year	All trains (inc. elec. multiple unit trains)	Mail and important through trains	Mixed trains	Suburban trains	Other passenger trains
	%	%	%	%	%
Broad gauge—					
1950-1	79·79	69·83	79·89	78·40 88·02*	75·30
1951-2	**78·81**	**74·15**	**81·16**	80·60 **82·00***	**75·49**
Metre gauge—					
1950-1	71·43	68·08	73·89	65·09 82·34†	68·13
1951-2	**77·70**	**72·53**	**77·56**	73·84 **95·35†**	**74·27**

* Electric multiple unit trains of the Western and Central Railways.
† Electric multiple unit trains of the Southern Railway.

37. **Restoration of passenger train services.**—Endeavours continued during the year to augment the train services for the convenience of passengers. Usually the results of such endeavours are seen in the revised time-tables introduced from 1 April every year. On this occasion, however, due to integration of Northern, North-Eastern and Eastern Railways from 15 May 1952, the time tables were also revised from 15 May 1952. By that date, the passenger train services on Indian Railways expressed in terms of train miles per day, had increased by about 4,163 on the broad gauge and 5,447 on the metre gauge, over those operating on 1 April, 1951.

38. **Goods trains.**—As compared with the previous year, goods train miles on the broad gauge increased by 6·23 per cent, wagon miles by 5·73 per cent and net ton miles by 7·79 per cent. On the metre gauge, there has been an increase of 3·46 per cent in train miles, 5·11 per cent in wagon miles and

6·26 per cent in net ton miles. These figures reflect an increase in the pay load per train over both gauges. The table below gives comparative figures for the years 1950-1 and 1951-2.

TRAIN MILES, TON MILES AND WAGON MILES, CLASS I RAILWAYS DURING 1950-1 AND 1951-2*

(Figures in millions)

——	1950-1	1951-2	Increase or decrease % over 1950-1
BROAD GAUGE			
Ton miles .	23,061·8	**24,858·7**	+7·79
Wagon miles	2,083·4	**2,202·7**	+5·73
Train miles—			
Goods (including proportion of mixed).	47·96	**50·95**	+6·23
METRE GAUGE			
Ton miles	3,532·3	**3,753·5**	+6·26
Wagon miles	598·7	**629·3**	+5·11
Train miles—			
Goods (including proportion of mixed).	19·38	**20·05**	+3·46

* Excludes departmental.

39. Goods train speeds.—Speed of goods trains suffered a slight deterioration as compared with the previous year. On the broad gauge, it declined from 10·8 miles per hour in 1950-1 to 10·7 miles in 1951-2 and on the metre gauge, from 9·32 to 9·22 during the same period.

40. Goods train loads.—The average net load of goods trains (steam) over the broad gauge increased by 8 tons from 479 in 1950-1 to 487 in 1951-2, and on the metre gauge by 5 tons from 182 in 1950-1 to 187 in 1951-2.

41. Stock usage.—Efforts to improve the power position on Class I Railways resulted during the year in an increase in the number of engines employed daily on different services, in the total engine miles run and in the engine user. It will be seen from the figures included in the accompanying table that on the broad gauge as against an increase of 1·19 per cent in the average number of engines in daily use, the total engine miles run increased by 4·05 per cent. The engine miles per engine day in use improved from 107 miles in 1950-1 to 110 miles in 1951-2. On the metre gauge, the total engine miles registered an increase of 3·30 per cent as against an increase of 2·63 per cent in the number of engines in use. The engine user stood at 104, the same as that during the previous year.

STOCK USAGE ON CLASS I RAILWAYS

Particulars	Broad gauge		Inc. or dec. % over	Metre gauge		Inc. or dec. % over
	1950-1	1951-2	1950-1	1950-1	1951-2	1950-1
Average no. of engines in use daily on different services.	3,713	**3,757**	+1·19	1,861	**1,910**	+2·63
Total engine miles (in thousands).	143,582	**149,394**	+4·05	70,138	**72,453**	+3·30
Engine miles per day per engine in use.	107	**110**	+2·80	104	**104**	*Nil*

42. Engine usage.—Engine miles per day per engine on line (*i.e.*, inclusive of time occupied under repairs, etc.) registered improvement on both the gauges. From 76 miles in 1950-1, it rose to 79 miles in 1951-2

on the broad gauge. On the metre gauge, the figure was 75 miles as against 74 miles during the previous year. The locomotive repair position also indicated improvement by the lower percentage of non-effective stock. The percentage of locomotives under or awaiting repairs in Mechanical and Transportation workshops to the total number on line declined from 19 to 18 per cent on the broad gauge and from 18 to 16 per cent on the metre gauge.

The amount of revenue-earning work done by locomotives expressed by the statistical unit 'net ton miles per goods locomotive day in use/on line' recorded further improvement on the broad gauge as well as on the metre gauge during the current year in comparison with the previous year.

STATISTICS OF LOCOMOTIVE USAGE, CLASS I RAILWAYS

—	Net ton miles: Broad gauge: Per goods locomotive day on line	Net ton miles: Broad gauge: Per goods locomotive day in use	Net ton miles: Metre gauge: Per goods locomotive day on line	Net ton miles: Metre gauge: Per goods locomotive day in use
1950-1	17,812	27,261	6,613	10,705
1951-2	**19,195**	**28,710**	**7,263**	**11,332**
Increase or decrease % over 1950-1	+7·76	+5·32	+9·83	+5·86

Details of engine usage are shown in Statement No. 22 of Volume II of this report.

43. Wagon usage.—Further improvement was shown under wagon usage on both gauges of Class I Railways during the year. Wagons were hauled on an average of 40·9 and 32·4 miles a day on broad and metre gauges respectively, the corresponding figures for 1950-1 being 38·7 and 31·2 miles.

Improvement in operation is also to be seen in the net ton miles moved per wagon day which increased on the broad gauge from 434 to 469 and on the metre gauge from 186 to 197.

The percentage of wagons under or awaiting repairs in mechanical and transportation workshops and sick lines to the total goods stock on line recorded a slight increase on the broad gauge from 7·28 per cent in 1950-1 to 7·40 per cent in 1951-2. But on the metre gauge it dropped from 8·64 to 8·32 per cent.

44. Wagons loaded with 'smalls'.—As compared with the previous year, the 'smalls traffic' declined during 1951-2 on the broad gauge, both in the number of wagons loaded with 'smalls' and as expressed as a percentage to the total traffic. On the metre gauge, though the number of wagons loaded with 'smalls' indicated an increase numerically, it still constituted only a smaller percentage to the total traffic in comparison with 1950-1.

NUMBER OF WAGONS LOADED WITH 'SMALLS' CLASS I RAILWAYS

—	Number: 1950-1	Number: 1951-2	Increase or decrease % over 1950-1	Percentage of the total number of wagons loaded: 1950-1	Percentage of the total number of wagons loaded: 1951-2
Broad gauge	340,144	**310,524**	−8·71	8·43	**7·34**
Metre gauge	317,337	**325,466**	+2·56	13·23	**12·55**

45. Improvement in marshalling yards and other yards and their working.—On the East Indian Railway the remodelling of Sakrigali junction yard was sanctioned and the work is in progress. Additions and alterations to the marshalling yards at Bhagalpur, Sahibganj, and Barka Kana were also made.

On the Southern Railway plans for improving transhipment facilities at Guntakal and Tadepalle Tranship Shed have been drawn up and the works are in progress. The remodelling of Tiruvarur junction yard has also been sanctioned.

On the Assam Railway elimination of the reversal and remodelling of the existing yard at Mal junction, with a view to improving the speed and efficiency of train operation and thus also contributing towards the needed increased capacity of the Assam Rail Link have been sanctioned.

46. Wagon position, broad gauge wagon pool.—The number of public service wagons (in terms of four-wheelers) in use on all Indian Railways in the wagon pool at the end of the year (1951-2) was 153,424, *i.e.*, 580 less than that at the end of the previous year. The total number of wagons loaded during the year was 4,231,614, being an increase of 195,108 wagons or 4·8 per cent as compared with the previous year. Demands for wagons exceeded from time to time their availability on most of the Railways.

47. Wagon position, metre gauge wagon pools.—(a) *Northern.*—The number of public service wagons (in terms of four-wheelers) in use on all Indian Railways on 31 March 1952, including reconditioned W. D. Stock, was 39,970, *i.e.*, 2,589 wagons more than that at the end of the year 1950-1. The wagon position continued to be difficult as the demands were much in excess of the wagon supply. The total number of wagons loaded during the year was 1,740,240, *i.e.*, an increase of 148,426 or 9·3 per cent, as compared with the previous year.

(b) *Southern.*—The total number of public traffic wagons in use on the metre gauge railways in Southern India on the 31 March 1952 was 16,490, *i.e.*, 271 wagons more than that at the end of the previous year. The total number of wagons loaded during the year was 853,069, being an increase of 12,411 or 1·5 per cent as compared with the previous year: The wagon position continued to be difficult throughout the year.

48. Interchange with Pakistan Railways.—During the year, Indian Railways made over to the Pakistan Railways 54,931 broad gauge wagons including 48,800 loaded. Of the 2,718 metre gauge wagons made over to Pakistan Railways, 670 were loaded. The total number of wagons received from them was 56,730 broad gauge including 28,118 loaded and 2,993 metre gauge of which 1,319 loaded. On an average the Pakistan Railways were creditor by 1,302 broad gauge and 127 metre gauge wagons daily during the year.

49. Neutral control of examination of wagons at interchange junctions, etc.—The system of Neutral Control of wagon examination under the Director of Wagon Interchange was in force at the following points:

(i) Interchange Junctions—

Broad gauge	*Metre gauge*
Ajni (Nagpur)	Katihar
Chheoki	Kanpur (CPA)
Ghaziabad	
Khanalampura	
New Delhi	
Waltair	
East Dock Junction	
Wadi*	
Kanpur (GMC)	
Gomoh	
Balharshah*	

* Neutral Control was discontinued from 6 November 1951 as these points ceased to be interchange junctions with the formation of the Central Railway.

(ii) Workshops—
Lillooah
Jhansi
Matunga
Parel (Mahalaxmi)

(iii) Marshalling Yard—
Moghal Sarai

(iv) Flying Squad—

A flying squad attached to Head Office is engaged in checking up the general condition of goods stock all over the country.

50. Coal supply and coal stock position.—The stock of steam coal on Indian Railways which stood at a level of 16·3 days' consumption requirements at the beginning of the year steadily declined to a level of 12·9 days by 20 June 1951. Thereafter the position gradually improved till it reached the level of 21 days by 30 September 1951, this being the highest level reached during the year. After that the position again gradually deteriorated and by the close of the year it was only 12·4 days. The railways affected most seriously were the former South Indian, Madras and Southern Mahratta, Bombay Baroda and Central India and Nizam's State Railways. The main reasons for this deterioration were as follows:

(*a*) the non-availability of the requisite number of steamers for carrying coal to the Southern Railway;

(*b*) the diversion of coal from other railways to the Southern Railway, resulting in deterioration of coal stock position on those railways.

In order to augment supplies of coal to the Southern Railway during the year the Ministry of Railways had to charter a special steamer for this purpose.

Efforts were made to reduce the number of collieries on the Loco Coal Programmes by raising their qualifying output in the first instance from 500 tons to 750 tons per month and later to 1,000 tons per month. But even with this arrangement a large number of collieries continued to supply coal to individual railways. This was responsible for deterioration in the quality of coal supplied. As a result of repeated representations made by the Railway Board, the supply of grade III-A and III-B coal not ordinarily asked for by the Railways was considerably reduced during the year.

Railways are prepared to give up the use of metallurgical coal provided coals of equivalent calorific value are made available instead. The supply of metallurgical coking coal was not reduced during the year as its raisings could not be restricted.

A Railway Fuel Economy Enquiry Committee was set up in November 1951 to examine the supply, consumption and reserve stocks of coal on railways and to make recommendations for economy in the expenditure on coal. Their report had not been received by the end of the year.

B.—COMMERCIAL

51. Alterations in Rates and Fares—

(a) *Goods.*—The more important changes in freight rates during the year are summarized below:

(1) Except on hill sections, *i.e.*, sections having a ruling gradient steeper than 1 in 50, the policy of charging rates and fares on the basis of inflated mileages was withdrawn on railways which were regrouped, namely, Southern, Western and Central Railways. Over these railways, standard rates and fares on actual mileages were introduced on all plain sections, *i.e.*, sections where the ruling gradient is 1 in 100 or easier. In regard to sections where the ruling gradient was between 1 in 50 and 1 in 99 and where rates were charged on inflated mileages before, it was decided that such sections as lie between and connect two plain sections be treated as plain sections, while

those sections which were separate sections and did not intervene between two plain sections be treated as hill sections. It was decided to take similar action with regard to the other railways as they were regrouped.

(2) The question of enhancement of the rates for coal was under consideration and it was decided that with effect from 1 April 1952 the basis of the scale applicable to coal, coke and patent fuel in wagon loads at owner's risk be revised as under, involving an increase of about 30 per cent:

	Pie per maund per mile
1 to 200 miles.	0·30
plus 201 to 400 miles.	0·10
plus 401 to 1,000 miles.	0·08
plus for all distances beyond.	0·07

The rebate of 12½ per cent on railway freight on coal, coke and patent fuel booked to cotton textile mills, cement factories and paper mills including straw board industry was also notified to be withdrawn with effect from the same date.

(3) All station-to-station rates for sugar in force from sugar factory stations in Uttar Pradesh and Bihar to certain stations in the West and South India, such as for example, Bombay, Baroda, Surat, Ahmedabad, Surendra Nagar, Madras, Coimbatore, Cochin, Mangalore, Madura, etc., were cancelled and withdrawn with effect from 1 December 1951 as the conditions, under which these were originally quoted, no longer prevailed and their continuance laid the railways open to a charge of undue preference.

(4) In pursuance of the decision of the Railway Rates Tribunal, with effect from 1 October 1951, the classification of 5th class at railway risk and the rate applicable to wagon loads, *viz.,* 2 RR for "groundnuts (without shells)" were cancelled and withdrawn, and were replaced by the lower classification for "Oilseeds NOC", *viz.,* 4th class at railway risk, and the lower wagon load scale, *viz.,* WL/H for Group I Railways and WL/G for Group II Railways at railway risk.

(5) The lower wagon load scales in force over Group II Railways—Assam (except D. H. Section), Bengal Provincial, East Indian, Eastern Punjab and Oudh Tirhut Railways—for bran, flour, grain, and pulses and seeds common, oilseeds N. O. C. were withdrawn from 1 March 1952, thus securing the uniform application on a continuous mileage basis of the wagon load scales in force over Group I railways—Barsi Light, Bengal Nagpur, Bikaner State, Bombay Baroda and Central India, Great Indian Peninsula, Jodhpur, Madras and Southern Mahratta, Mysore State, Nizam's State, Rajasthan, Saurashtra and South Indian Railways—for these commodities over all Indian Government Railways.

(6) The revision of the special rates for raw materials and finished products of the iron and steel industry, which were below the railways' rate reducing powers, was under consideration during the year and the enhanced rates were notified to have effect from 1 April 1952.

(7) To meet the pressing need for fodder in the scarcity areas of the Bombay, Punjab, Rajasthan, Saurashtra, Ajmer and PEPSU States, concessional rates for the carriage of fodder or forage were introduced.

(8) The concessional rates for handloom cloth including khaddar were allowed to continue as a permanent measure. The concession was further extended to apply to all handloom products whether tailored or untailored, such as wearing apparel, hosiery, handkerchiefs, towels, etc.

(9) The more important changes under particular items over certain individual railways are given below:

East Indian Railway—

(i) Consequent on the enhancement in the rates over the river portion of the rail-*cum*-river routes from Assam to Calcutta by the steamer companies, the special rates for jute and tea from Assam Railway stations to Calcutta, originally quoted on the basis of the rail-*cum*-river rates, were suitably revised to maintain the routing arrangements previously in force.

(ii) To encourage the movement of hemp in pressed and baled condition, thereby effecting economy in wagon space, special rates were introduced for hemp machine pressed from Shivpur to Kidderpore Docks for shipment overseas and to the paper mills in Khamargachi.

(iii) A local haulage charge of 6 pies per maund for general merchandise and for coal on traffic booked to and from Kidderpore Docks was introduced by the Calcutta Port Commissioners.

(iv) Reduced lumpsum wagon rates on floor area basis for raw materials for the manufacture of paper (bamboo chips and splints) for distances 20-500 miles were introduced to avoid detention to wagons at weigh-bridges and to avoid the demand for particular types of wagons by the traders.

(v) Reduced rate for raw materials for the manufacture of paper (Bagasee) from Maholi to Saharanpur was introduced.

Eastern Punjab Railway—

Consignments of (i) grains collected and despatched as gifts for the relief of scarcity affected people in Bihar and Madras; and

(ii) Salt donated by the Salt Merchants Association and the Chemical Works, Dhrangadhra, for the Government of Jammu and Kashmir for relief purposes when offered in wagon loads were charged at half the existing basic rates by goods train *plus* terminals.

Bikaner State Railway—

Lumpsum wagon rates for sugarcane from certain stations on Canal Loop to Sri Ganga Nagar were introduced with effect from 1 June 1951.

Southern Railway—

(i) As the nearest port could not cater for the entire traffic of iron ore offered, to allow the overflow of traffic *move via* Madras Harbour, special rates were quoted from stations in Bellary area to Madras Harbour in two stages, *viz.,* from the metre gauge stations concerned to Guntakal and from Guntakal to Madras Harbour, the two transactions being treated separately.

(ii) The special station-to-station rates for manganese ore from stations in the Sandur Area, *viz.,* Samehalli, and Yeshwantnagar to Mormugao Harbour were enhanced with effect from 15 February 1952.

(b) *Coaching Traffic.*—With effect from 1 April 1951, the basis of passenger fares for four classes of accommodation were altered as follows:

Class	Rate in pies per mile. Previous	Revised
First	24	27
Second	14	16
Inter (mail/express)	9	$10\frac{1}{2}$
Inter (ordinary)	$7\frac{1}{2}$	9
Third (mail/express)	5	6
Third (ordinary)	4	5

There were, however, no changes in the bases of fares for air-conditioned accommodation, tourist cars and saloons and monthly season tickets, both suburban and non-suburban.

With a view to attracting people to places of interest and health resorts and thereby developing traffic, hill concession return tickets in air-conditioned,

First and Second classes at one-and-half single journey fares were introduced during the summer of 1951 for the following hill stations from all stations situated at distances of 75 miles or over: Simla, Dehra Dun, Pathankot, Ootacamund, Kodaikanal Road, Abu Road and Shivpuri.

This concession was not, however, extended to Inter and Third classes in view of the present crowding in trains in these classes. But this concession was extended to all classes in the case of Shivpuri.

On the Eastern Punjab Railway.—With effect from 15 May 1951, Third class return tickets at special reduced fares, available for two months, were issued from certain stations of the E. P. Railway to Simla and *vice versa.* This concession remained valid till 31 October 1951.

The charge for reserving 4 seater Rail Motor on the Kalka-Simla section was reduced from six to four First class fares and the minimum charge from Rs. 70 to Rs. 60.

On the Central Railway.—With effect from 1 May 1951 the inflated distance for charge for passengers and their luggage between Neral and *via* and Matheran was reduced from 117 to 52 miles. On and from the same date, the passenger fare between Neral and Matheran for journey by rail motor was revised to Rs. 9.

52. Effect of changes in rates and fares—*Goods traffic.*—This was the third year in which the revised rates structure introduced with effect from 1 October 1948 operated throughout. There was a further increase in the net ton miles carried from 26,710 millions in 1950-1 to 28,728 millions in 1951-2, a fact which tends to support the earlier anticipations that the revised rates structure would have no adverse effect on traffic movements.

The abolition of inflated mileages on three zonal railways which had already been inaugurated, *viz.,* on the Southern, Central and Western Railways, resulted in a loss of revenue of about Rs. 5·5 lakhs during the year. The reduction in the classification of groundnuts (without shells) led to a loss of about 10 lakhs per annum, the loss for the year under review being of the order of Rs. 5 lakhs. On the other hand, the withdrawal of the special reduced rates for sugar from sugar factory stations in Uttar Pradesh and Bihar to certain stations in the West and South India with effect from 1 December 1951 was estimated to result in an increase in earnings of Rs. 48 lakhs per annum, the increase in the current year being Rs. 16 lakhs.

Passenger traffic.—The bases of passenger fares were revised during the year under review. There was a decrease in the number of passengers carried from 1,323,335,700 in 1950-1 to 1,247,313,800 in 1951-2 whereas there was an increase in the earnings derived from passenger traffic from Rs. 97,82,84,000 in 1950-1 to Rs. 1,09,87,85,000 in 1951-2. It is too early to say that the decrease in the number of passengers carried during the current year is due to increase in fares.

53. Efforts to secure better wagon usage and wagon loads.—Efforts to secure better wagon loads continued during the year by giving wagons maximum starting loads and by keeping a check over the loads given to wagons at transhipment points.

To secure better wagon loads and uniformity of practice over all Indian Railways, a minimum weight of 240 mds. per 4-wheeled broad gauge wagon and of 160 mds. per 4-wheeled metre gauge wagon was prescribed for registering requests for supply of wagons.

With a view to encouraging movement of firewood traffic in open wagons, the weight for charge for this traffic in covered wagons was reduced by 20 per cent for traffic loaded in open wagons by the Central Railway.

To eliminate detention to wagons loaded with *bhoosa* caused at weigh-bridge stations, the Central Railway introduced a system of charging this commodity on floor area basis.

The Eastern Punjab Railway quoted lumpsum wagon load rates based on the floor area of the wagon used for firewood booked from stations on the East Indian Railway to stations on the Eastern Punjab Railway.

54. Co-ordination of rail, road and water transport—

Bombay State.—The Central Government increased its share-holding in the Bombay State Road Transport Corporation from 25 to $33\frac{1}{3}$ per cent, and consequently the total capital invested by them amounted to Rs. 200 lakhs as against Rs. 133·33 lakhs during the previous year. The number of their representatives in the Corporation was increased from one to two.

During the year, the Bombay State Road Transport Corporation made fairly good progress, earned a profit of Rs. 24,86,804 and declared a dividend of 3 per cent, the Central Government's share being Rs. 3,38,347-9-0.

Madhya Pradesh.—The two co-ordinated road transport companies, *viz.*, the Central Province Transport Services, Limited, and the Provincial Transport Company Limited, operating in the State continued to show steady progress. The remaining five lakhs of the authorized capital of the Provincial Transport Co., Ltd., mentioned in the report for 1950-1 was issued during the year and the Central Government invested a further sum of Rs. 1,25,000, representing 25 per cent of the additional subscribed capital.

Orissa.—During the year, the Orissa Road Transport Company Limited, which was inaugurated on 1 January 1951, took over operation of the remaining routes in the Ganjam Traffic Zone. Except for a temporary set-back during the monsoon period owing to a number of routes having to be closed on account of floods in rivers, the Company made satisfactory progress.

Hyderabad.—The scheme for the working of the Hyderabad Road Transport by the Railway on an agency basis as a result of the integration of the Nizam's State Railway with the Indian Government Railways with effect from 1 April 1950 ceased to be operative from 1 November 1951, when the entire management was made over to the Hyderabad Government.

55. Closer contact with business people.—Railway administrations continued to follow the policy of maintaining close contact with business people, by holding informal meetings with them at important centres. The subjects discussed at these meetings included such items as improved booking and transport arrangements, expeditious despatch of goods in transit, prompt disposal of claims, etc. These meetings helped to create an atmosphere of better relations and understanding of the difficulties of merchants as well as of Railway Administration.

56. Claims for compensation and refunds.—As many as 382,638 claims were settled by the Indian Railways during the year under review, as against 355,888 during 1950-1. The number of claims which remained unsettled on all Indian Railways at the end of the year 1951-2 was 82,558 as against 75,774 at the end of 1950-1. The increase in the number of outstanding claims is attributable to the increase in the number of new claims received during the year largely as a result of greater number of thefts from running trains. The net amount paid by railways, during the year, on account of goods lost or damaged was, however, Rs. 2,91,80,867 as against Rs. 3,11,73,233 paid in 1950-1. The improvement resulted from better scrutiny in claims offices.

The average time taken in the settlement of a claim has also been brought down from 75 days last year to 72 days during 1951-2.

The number of suits filed and those, which remained pending at the close of the year was 27,952 and 13,142 respectively as against 42,388 and 13,196 at the end of 1950-1. This appreciable reduction was achieved as a result of prompt disposal and elimination of infructuous litigation.

The following statements for Indian Railways show for 1951-2 :

(*a*) the number of claims received in respect of goods or parcels damaged or lost and of goods and parcels overcharged and the average time taken in their settlement ;

(*b*) the number and value of claims in respect of goods or parcels lost or damaged under the main causes ;

(*c*) the number of court cases in respect of goods or parcels lost, damaged or delayed and their disposal.

STATEMENT A

Claims received for goods or parcels damaged, lost or overcharged, and the average time for settlement

Item No.	Particulars	Assam	B. N.	Bikaner	Central	E. I.	E. P.	Jodhpur	O. T.	Southern	Western	Total all railways
(1)	Number of claims involving compensation for goods or parcels lost, damaged, or delayed, carried over as unsettled at the close of the preceding year	7,690	11,790	3,177	12,388	15,548	1,733	1,443	4,069	8,905	9,031	75,774
(2)	Number of claims received (and re-opened) for compensation on account of goods or parcels lost, damaged, or delayed during the current year	16,740	59,085	4,276	65,226	84,300	26,105	4,990	23,010	50,372	55,324	389,428
(3)	Number of claims referred to against (items 1 & 2) settled during the year	20,152	55,114	5,262	63,577	84,704	24,086	4,636	21,973	46,384	56,750	382,638
(4)	Balance outstanding as unsettled at the close of the year	4,278	15,761	2,191	14,037	15,144	3,752	1,797	5,100	12,893	7,605	82,558
(5)	Net amount paid in compensation Rs.	22,08,161	75,09,855	1,84,908	42,35,037	62,49,150	7,07,031	—93,492	25,96,090	21,21,841	34,62,286	2,91,80,867
(6)	Percentage of sum paid in compensation (item 5) to gross earnings	3·53	2·98	2·7	1·19	1·44	0·46	—1·01	1·84	0·45	1·27	1·40
(7)	Average time taken in settlement of claims shown against items (1) & (2) (days)	62	61	75	87	66	65	90	57	81	78*	72
(8)	Number of applications received for refunds on goods and parcels overcharged	6,770	5,194	817	11,711†	27,393	13,023	2,932	7,283	39,118	18,906	133,147
(9)	Average time taken in settlement of claims shown against item (8) (days)	68	173	68	138†	71	37	54	90	51	93	76

* Represents *ex*-B. B. & C. I. Railway's figures only.
† Represents *ex*-G. I. P. Railway's figures only.

STATEMENT B

Number and Value of Claims Paid

Item No.	Particulars		Assam	B. N.	Bikaner	Central	E. I.	E. P.	Jodhpur	O. T.	Southern	Western	Total all Railways
(1)	Claims paid on account of goods lost	No.	1,585	7,000	738	19,628	10,542	226	955	1,633	5,085	13,345	60,737
		Value (Rs.)	5,36,775	20,07,774	70,034	29,29,964	27,25,295	11,675	1,79,051	5,82,357	5,44,962	20,44,651	1,16,32,538
(2)	Claims paid on account of goods stolen	No.	19	17,418	1	*	12,505	141	130	3,624	135	668	34,641
		Value (Rs.)	13,744	23,90,579	1,225	*	27,76,844	15,239	5,831	6,78,691	54,851	84,303	60,21,307
(3)	Claims paid on account of goods damaged by wet	No.	29	783	55	3,488	4,168	45	34	58	363	1,609	10,632
		Value (Rs.)	13,414	2,72,174	4,082	3,35,928	9,69,327	536	5,803	18,062	47,833	2,36,585	19,03,744
(4)	Claims paid on account of goods damaged by fire	No.	1	5	Nil	20	9	Nil	Nil	36	63	10	144
		Value (Rs.)	243	2,022	Nil	16,895	23,261	Nil	Nil	6,215	16,296	8,791	73,723
(5)	Claims paid on account of goods damaged by breakage	No.	..	25	1,225	1,330	1,074	15	Nil	2	121	186	3,978
		Value (Rs.)	..	5,776	82,078	1,05,587	2,37,161	8,907	Nil	9,451	15,908	20,638	4,85,506
(6)	Claims paid on account of parcels and luggage lost and stolen	No.	488	10,031	191	3,551	6,229	†	730	2,205	2,624	7,775	33,824
		Value (Rs.)	1,16,968	12,57,455	10,280	1,23,289	13,12,888	†	43,859	2,92,931	2,25,731	6,20,510	40,03,911
(7)	Claims paid on account of other causes	No.	2,863	3,124	102	7,183	336	611	172	2,008	11,697	9,773	37,869
		Value (Rs.)	15,27,017	9,56,666	16,708	9,51,222	1,62,312	28,075	40,325	10,07,597	14,26,367	13,38,388	74,54,677

* Included in item 1.
† Included under items 1 and 2.

STATEMENT C

Number of Court Cases in respect of Claims and their Disposal

Item No.	Particulars	Assam	B. N.	Bikaner	Central	E. I.	E. P.	Jodhpur	O. T.	Southern	Western	Total all railways
(1)	Number of suits filed in court (or pending from the previous year) for the recovery of compensation in respect of goods or parcels lost, damaged or delayed	2,900	3,359	38	2,657	8,051	1,019	46	5,240	769	3,873	27,952
(2)	Number of such suits settled out of court	804	2,011	4	829	2,159	194	3	1,649	243	1,862	9,758
(3)	Number of suits dismissed	116	95	6	263	1,354	133	2	208	113	421	2,711
(4)	Number of suits decreed	204	46	2	337	1,185	88	1	232	52	194	2,341
(5)	Number of suits pending	1,776	1,207	26	1,228	3,353	604	40	3,151	361	1,396	13,142

57. Special drive for disposal of arrear compensation claims, for prevention of claims.—There has been an increase during the year in the number of new claims which was 3,89,428 as against 3,46,600 during 1950-1. The increase is mainly due to large scale of pilferages of essential commodities, running train thefts and other thefts. The rising trend of the number of thefts is mainly attributable to the present economic conditions in the country aggravated by the high price of essential commodities which, being in short supply, are the special targets of train thieves. Railway Administrations are doing their best to prevent these thefts by tightening up security measures, detailed below, apart from seeking assistance of the State Governments.

(i) Patrolling of affected areas notorious for running train thefts and yard thefts, and escorting by Railway Protection Police of wagons which carry valuable goods.

(ii) Provision of dunnage on despatches in respect of consignments of sugar.

(iii) Close collaboration of the Government Railway Police and the Watch and Ward supervisory staff.

(iv) Extensive use of Ellis-patent locks.

Other measures taken to combat the causes leading to claims are:—

(i) observance of 'Stop rough handling week' at regular intervals;

(ii) periodical special checks to ensure proper packing, labelling and marking of packages;

(iii) improved methods of loading foodgrains and other bagged cargo;

(iv) special efforts to connect and restore unconnected wagons and packages to the rightful owners.

58. Ticketless travel.—The usual measures in respect of checking of tickets of railway passengers with a view to detecting ticketless travellers were continued to be taken on Railways. In addition, the special arrangements for carrying on concentrated drives against this evil, with the assistance of special magistrates and police, were continued in Uttar Pradesh and Bombay. A similar scheme was also sanctioned on the portions of the East Indian and Oudh Tirhut Railways falling in the State of Bihar. Other important measures taken include the introduction of the self-printing machines in the suburban stations of big cities which helped in the quicker issue of tickets resulting in a decrease in the number of ticketless travellers and the switching on of ticket examiners from one district to another for short periods to encourage healthy competition among them.

The number of passengers detected travelling without passes or tickets and the amounts realized from them during the year under review were 79,00,918 and Rs. 1,65,58,180 respectively, the corresponding figures for the previous year being 87,14,862 and Rs. 1,71,01,310.

59. *Mela* traffic.—Special arrangements were made as and when warranted to clear traffic for the *melas* and fairs held during the year. The composition of daily service trains was strengthened and a number of special trains were run.

The biggest *mela* held during the year was the Solar Eclipse fair at Kurukshetra on the Northern Railway. 132 special trains were run to and from Kurukshetra for the assembly and dispersal of the pilgrims. In order to raise stock for the special trains, some regular service trains had to be cancelled temporarily. Approximately 790,000 inward and outward pilgrims were carried over the railway and a new record was set up since 1928. All arrangements in connection with this *mela* worked smoothly.

60. Measures to ensure civility and assistance on the part of the Railway staff in their dealings with the public.—Railways continued to give special

attention to this important matter. The duty of the Railway staff as public servants to the customers of the railways was impressed on all staff coming into contact with the public. All complaints of incivility were investigated and appropriate action taken in proved cases.

61. Measures taken to foster tourist traffic.—As in the previous year. Railway administrations continued to pay attention to the question of the provision of retiring rooms at important tourist centres where these did not exist and the improvement of existing ones. Better booking arrangements were provided to the Tourist Agents on behalf of visiting tourists. Special accommodation facilities were also provided for at the State Hotel, Aurangabad for the use of tourists.

Another step taken to foster tourist traffic was the drive initiated for achieving and maintaining appropriate standards in the Western style of catering in restaurants at stations and in the dining cars on trains to serve the needs both of the internal and foreign tourists in terms of the recommendations of the Special Committee on Western Style Catering on Railways mentioned in the last report.

CHAPTER IV

NEW CONSTRUCTIONS AND ENGINEERING WORKS

62. Capital Expenditure.—At the end of March 1952, the total capital-at-charge of all railways, including lines under construction, amounted to Rs. 861·55 crores, of which Rs. 850·11 crores represented the capital-at-charge of Indian Government Railways, inclusive of the premia paid on the purchase of certain companies' lines. The balance of Rs. 11·44 crores was the capital raised by Indian States, Companies and District Boards.

The figure of capital-at-charge of Indian Government Railways which is provisional, pending closing of the pre-partition accounts and the finalization of the balances brought forward on 1 April 1950 in case of *ex*-States' Railways, comprises the following items:

	£
Liability and debt incurred in the purchase of railways	131,164,798
Less liability and debt cancelled by the operation of annuities and sinking funds	23,756,284
Net amount outstanding	107,408,514
	Rs.
Direct expenditure by Government (in thousands)	7,06,89,53
Amount in sterling converted into rupees (in thousands)	1,43,21,58¶
GRAND TOTAL	8,50,11,11

By far the greater portion of this amount, namely Rs. 8,49,27,64,000, is Government capital and only a sum of Rs. 83,47,000 is owned by Indian States, etc.

The total capital outlay on all railways during 1951-2 was Rs. 23·39 crores, of which Rs. 23·21 crores related to Indian Government Railways.

The distribution of the capital outlay in 1951-2 over the different Indian Government Railways is shown in the following Statement:

CAPITAL OUTLAY ON INDIAN GOVERNMENT RAILWAYS DURING 1951-2

(Figures in lakhs of rupees)

Railways	Open lines			New lines			Grand total
	Works, etc.	Rolling-stock	Total	Works, etc.	Rolling-stock	Total	
Assam	85	14	99	—21	..	—21	78
Bengal Nagpur	3,32	54	3,86	7	..	7	3,93
Bikaner State	—16	12	—4	..	..	..	—4
Central	2,49	3,34	5,83	1	..	1	5,84
East Indian	16	1,28	1,44	—1	..	—1	1,43
Eastern Punjab	11	—2	9	—1 1,88	..	—1* 1,88†	1,96
Jodhpur	11	—7	4	..	..	..	4
Oudh Tirhut	1,17	9	1,26	..	..	..	1,26
Southern	71	14	85	..	..	..	85
Western	1,61	1,39	3,00	9	5	14	3,14
Chittaranjan Locomotive Works	3,86	..	3,86	..	..	..	3,86‡
Coal Department	—4	..	—4	..	..	..	—4
Integral Coach Factory	15	..	15	..	..	..	15
Railway Board	5	..	5	..	..	..	5
TOTAL	14,39	6,95	21,34	1,82	5	1,87	23,21

* Commercial. † Strategic.

‡ Includes Rs. 21 lakhs on account of contribution to Depreciation Reserve Fund in respect of machinery, plant, etc., at Chittaranjan Locomotive Works for the year 1951-2.

§ Represents balance of the expenditure on Railway Board's bulk orders rolling stock programme for 1952-3 booked during 1951-2 but not transferred to the allottee Railways during that year's accounts.

¶ The amounts, £2,575,000, £2,000,000, £1,500,000 and £1,000,000, representing the share capital respectively of the Great Indian Peninsula, the Bombay, Baroda and Central India, the Madras and Southern Mahratta and the South Indian Railways (the first two amounts being paid off during 1925-6 and 1941-2 respectively, and the last two during 1944-5) have been converted at appropriate average rate of exchange for those years and the balance of £100,333,514 at the rate of 1s. 6d. to the rupee.

63. Mileage of lines-opened or sanctioned in 1951-2.—The following lines were sanctioned during the year:

Railway	Name of line	Mileage
New lines—		
East Indian	Chunar-Robertsganj	46·89
Western	Pihij-Nadiad	3·50
Restoration of lines which were dismantled during the last war—		
East Indian	Bijnor-Chandpur Siau	22·16
	Unao-Madhoganj-Balamau	62·00
Eastern Punjab	Nagrota-Jogindernagar	35·00
Southern	Madura-Bodinayakanur	50·81
	Shoranur-Nilambur	42·00
Western	Vasad-Kathana	27·00
	Cambay-Bunder Siding	1·50
	TOTAL	290·86

The following new line representing an addition of 16·35 miles was opened during the year:

Arantangi-Karaikudi section of the Southern Railway. 16·35 miles.

This excludes the doubling of the section between Tilhar and Bareilly, a length of 32·50 miles on the East Indian Railway, which was completed on 24 March 1952.

64. Lines under construction during 1951-2.—A total mileage of 531·76 was under construction during the year. The details of the lines are shown below:

Railway	Name of Section	Mileage
New lines—		
East Indian	Chunar-Robertsganj	46·89
Eastern Punjab	Mukerian-Pathankot	26·87
Southern	Sulur-Singanallur Coimbatore North	9·20
Western	Sanganer Town-Sawai-Mangarh-Diggi-Toda Rai Singh	27·79
	Kandla-Deesa	170·04
	Pihij-Nadiad	3·50
Restoration of lines which were dismantled during the last war—		
East Indian	Bijnor-Chandpur Siau	22·16
	Unao-Madhoganj-Balamau	62·00
	Tinpahar-Rajmahal*	7·00
Eastern Punjab	Nagrota-Jogindernagar	35·00
Southern	Madura-Bodinayakanur	50·81
	Shoranur-Nilambur	42·00
Western	Vasad-Kathana	27·00
	Cambay-Bunder Siding	1·50
	TOTAL	531·76

* During the year, the Tinpahar-Rajmahal section, which was dismantled during the war, was restored and opened to traffic on 30-12-51.

65. New surveys.—One survey, aggregating about 8 miles, was sanctioned during the year. The detail of the proposed line, nature of the survey, the gauge and the mileage are given below:

Railway	Nature of survey	Gauge	Mileage
Great Indian Peninsula	Hirdagarh Branch traffic survey	B. G.	8·00

66. Lines closed during 1951-2.—No lines were closed during the year.

67. Damage caused to Railways by earthquakes, floods and cyclones.—The following table gives the extent and character of the more important damages caused by earthquakes, floods and cyclone during the year. The damages were mainly due to heavy rainfall.

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication	Total approximate cost of repairs to damages
1	2	3	4	5
				Rs.
	Assam Railway.			
Dangari Saikhoaghat section	Due to changes in the topography after the earthquake of 1950, the section was over-flooded five times causing considerable damage to the embankment, etc.	Five times between May 1951 to September 1951.	Total of 27 days 20 hours	38,000
Bagrakota to Madarihat section	This old Bengal Dooars section was subjected to heavy flooding on 25-8-51 due to heavy rains. Railway bank at mile 44/10-11 between Nagrakata and Carron was washed away and 1 Up Link Express was involved in an accident resulting in death to 10 passengers.	25-8-51	25-8-51	
Siliguri-Haldibari section	The Buri Tista mile 34/5-6 between Mandal-ghat and Haldibari remained all through the monsoon a source of great anxiety. There was extensive damage to the bridge. The pucca floor under span No. 3 was completely washed away. Protection work in front of the two abutments were also washed away.	..	41 days	
Darjeeling - Himalayan section	There were heavy damages during the monsoon on this section, between Kurseong and Darjeeling, between Kurseong and Tindharia and between Kurseong and Siliguri Jn.	2-7-51	Kurseong-Darjeeling from 2-7-51 to 5-7-51. Kurseong - Tindharia from 3-7-51 to 4-7-51. Kurseong-Siliguri Jn. from 15-7-51 to 20-7-51.	
	East Indian Railway			
Pandra Branch at mile 151/10-15/11 on Grand chord	On the night of 10 and 11 September 1951 the line was breached for a length of 43′-0″ and there were several deep scour on the south side of the bank for a length of 150 ft. ahead of the breach.	10 and 11 September 1951.	4 Days Coal pilot working hampered.	1,000
Bridge No. 101 on AB branch near Rajghat Narora	The new spur built 2½ miles up stream was damaged. Further the river developed on out-flanking action against it in the 2nd half of September 1951. The spur was, however, saved.	Middle of September 1951	Nil	2,00,000
	Northern Railway			
Jullundur Cantt.-Hoshiarpur	Due to heavy rains line breached at mile 14/1-2 and 18/1-2 between Khurdpur and Nasrala.	At 8 Hrs. on 29-7-51	(1) Breach at mile 14/1-2 was repaired and declared fit for traffic at 20 hours on 29-6-51. (2) Breach at mile 18/1-2 repaired and through communication restored at 12 hrs. on 4-8-51.	7,530
Ferozepore Cantt.-Jullundur City	Flood water over-topped the Rly. embankment at mile 35/4 and 41. Train service between Makhu and Lohian Khas was suspended.	1/40 Hrs. on 1-8-51	Line was restored for traffic at 6/40 Hrs. 2-8-51.	
Saharanpur-Ludhiana	Due to heavy rains in the nearby hills and consequent breach in Sirhind Canal near Rupar there was a heavy flood all along on the North side of track between Gobind-garh and Khanna and beyond. The water level touched the toe of the ballast on the railway embankment from mile 188 to 194/12 on the upstream side where the line was blocked to rail traffic.	30-7-51	Down Line 7 hours and 30 Mts. Up Line 25 hours.	3,000
Rupar-Nangal Dam	Due to very heavy and incessant rains huge quantity of water from the adjoining lands and also water from the Barsati Nallah which runs along the track between Rupar and Kurali at a distance of ½ mile over-flowed and breached the track at several places.	30-7-51	102 hours and 30 minutes	4,000

Section affected	Character and extent of damage	Date of damage	Duration of interruption to through communication	Total approximate cost of repairs to damages
1	2	3	4	5
				Rs.
	Northern Railway—contd.			
Rupar-Nangal Dam—*contd.*	Due to incessant and extremely heavy rains especially between Anandpur Sahib and Rupar the track was damaged and breached at several places between Rupar, Bharatgarh and Anandpur Sahib.	30-7-51	38 hours	1,400
Kalka-Simla . . .	Owing to heavy rains a hill slip occurred in the upstream side of bridge No. 424 at mile 31/5-6 between Solon Brewery and Salogra. A large quantity of debris fell over the track and the opening of the bridge got temporarily closed.	21 and 22-8-51	8 hours	1,900
Ditto . .	Due to land slide at bridge No. 822 between Summer Hill and Simla the retaining wall of the bridge got damaged.	13-9-51	145 hours and 35 minutes	10,000
	Oudh Tirhut Railway			
Kursela Bridge No. 46 MB (21″×40″ G) at mile 8/10-11 between Dhamara Ghat and Kaparia	Piers No. 1, 2 and 3 scoured below safe limit due to heavy afflux and high velocity of flowing water.	26-3-51	26-3-51 to 4-4-51	
Badla Ghat at new mile 6 to 8		19-7-51	19-7-51 to 6-8-51	
Dhamara Ghat and Koparia at miles 105/6	Kosi flood water flowing over the diversions	19-7-51 ..	19-7-51 to 7-10-51	
Mithai and Dauram Madhopura		17-6-51	17-6-51 to 2-11-51	3,36,600
Between Baijnathpur and Mithai		4-7-51	4-7-51 to 29-9-51	
Parsarma Supaul Section	Kosi floods in 1947	1947	Upto 15-6-51	
Bhikma Thoree quarry siding (already closed)	Spate in Pandai river	27-8-51	....	
Between Amolwa and Gaunaha at miles 11/9 to 12/1	Spate in Pandai river water level at causeway rose 9″ above rail level.	27-8-51	....	
Nirmali Station	Flood 3″ higher than 50-51 H.F.L. which was 180·8.	..	....	
Bolan Bridge at Nirmali (Bridge No. 143A)	Flood water rose 1½″ above the rail level	..	....	
Bazpur and Lalkua and Bridge 28 and 29	Flood water passing over the track and the bridge	21-8-51	21-8-51 to 22-8-51	
Between Haldwani and Lalkua	Floods in river Gaulha overflowing the track	14-9-51	....	
Between Dudwa and Chandan Chowki	River Jarwa over flooding the track	26-8-51	26 to 28-8-51	
	Western Railway			
Sevalia-Timba Road .	On account of flood in Mahi River the low level bridge was submerged causing interruption to through communication.	27-6-51	From 11/52 hrs. on 27 June 1951 to 11/22 hrs. on 29 July, 1951.	
Virar-Saphala . .	Due to excessive rains the track was submerged from mile 46/6 to 47/8 to a height of 1′-6″ above rail level.	8-8-51	From 19/30 hrs. on 8 August 1951 to 1/00 hrs. on 9 August on Up line and upto 3/30 hrs. on 9 August 1951 on Dn. line.	500
Hindaun - Fatehsinghpura	On 16 August 1951, the Juggar River (Bridge No. 473) was in high flood. A portion very close to the toe of the north east bank was scoured.	16-8-51	From 20/45 hrs. on 16 August to 13/30 hrs. on 17 August 1951.	1,200
Kanalus-Gop Branch .	Due to heavy rainfall the ballast and portion of formation in a length of 300′ was washed away in mile 9/10-11.	27-6-51	From 13 hrs. on 27 June 1951 to 13 hrs. on 29 June 1951.	1,700
Morvi-Ghantila (Narrow gauge)	Due to heavy rainfall the line was washed at scattered spots in mile 20-21, 23-24 and 26-27.	26-7-51	From 18 hrs. on 26-7-51 to 17 hrs. on 27-7-51.	1,000
Rajkot-Okha	Due to heavy rains the line was washed between Bhopalka and Bhatia, and Bhatia-Kuranga stations.	27-7-51	Line between Bhopalka-Bhatia and Bhatia-Kuranga Section from 10 hrs. on 27 July 1951 to 11 hrs. on 29 July 1951.	6,500
Ditto	Due to very heavy rains the ballast including portion of embankment at few spots was washed away in mile 114/8, 120/1-5, 122/13-17, 124/15-16, 125/1-5, 135/3-7, 137/22 and 138/2 between Bhatia and Varvala.	17-11-51	From 6 hrs. on 18-11-51 to 18 hrs. on 19-11-51.	2,000

68. Engineering Works.

East Indian Railway—

Bijnor-Chandpur Siau.—This section, 22 miles long, formed part of the Chandpur Siau-Bijnor-Muazzampur Narain line on the East Indian Railway and was dismantled during the war and closed to public traffic on 1 December 1940. The restoration of the line is estimated to cost Rs. 22·93 lakhs approximately. The work has just started and the line is expected to be opened for traffic some time in January 1953.

Chunar-Robertsganj.—Construction of a broad gauge line from Chunar to Robertsganj, about 47 miles long was undertaken at an estimated cost of Rs. 2·50 crores approximately in order to assist the Uttar Pradesh Government in the opening of a cement factory at Chark, near Robertsganj and also to develop the industrially undeveloped but potentially rich area in the South Mirzapur District. The work was commenced in August 1951 and is expected to be completed in 1953-4.

Bombay, Baroda and Central India Railway—

Kandla-Deesa.—This metre gauge line, about 170 miles long system is intended to provide a rail connection between the hinterland and the new port of Kandla, which is being developed as a major port on the Cutch coast. The construction was ordered in November 1949 and actual work in the field commenced in January 1950 from the Deesa end. A major portion of the project has already been completed and the line is expected to be opened for traffic some time in October 1952. The line is estimated to cost Rs. 5·67 crores approximately.

Eastern Punjab Railway—

Mukerian-Pathankot.—Construction of the Mukerian-Pathankot line, a length of 26·87 miles on the broad gauge system of the Eastern Punjab Railway, was undertaken on strategic considerations at an estimated cost of Rs. 3·77 crores. Authorization for taking the work in hand was issued on 29 November 1949. The construction work has practically been completed and the line is expected to be opened to traffic early in April 1952. This line will short-circuit the route between Delhi and Pathankot *via* Amritsar by about 44 miles.

69. Open line improvements.

Assam Railway—

Improvement of line capacity works between Kishanganj and Manihari-ghat.—Cost Rs. 7,44,063—This work has been found necessary in order to provide adequate facilities to deal with the increased traffic consequent on the construction of the Assam Rail Link.

Bombay, Baroda and Central India Railway—

Re-opening of crossing stations at Chhoti Oodai, Lalpur Umri, Dumaria, Amli and Arnetha on the Kotah Division and Luni Richa on the Ratlam Division.—Cost Rs. 7,29,259—These works are necessary to increase the line capacity on the Baroda-Mathura Section where the block sections are long resulting in detentions to trains.

Southern Railway—

Improvements to watering arrangements at Dhanushkodi.—Cost Rs. 8,30,000-33,000 gallons of water were being supplied daily to Dhanushkodi station by water tanks from Mandapam for the use of (i) the steamers that ply between Dhanushkodi and Talaimannar Pier, (ii) locomotives and (iii) colony residents. The water from the water tanks was discharged into a pit, from which it was pumped to the high service tanks. As the supply from Mandapam, has deteriorated, an independent supply for Dhanushkodi has been arranged by locating the railway watering installations in a fresh water belt area between Pamban and Dhanushkodi.

Improvements to watering arrangements at Virudhunagar Junction.—Cost Rs. 5,68,500—The daily requirements of water at this Junction, both for locomotive and domestic purposes, estimated at about 1 lakh of gallons, were met from one loco. well. The supply, besides being entirely inadequate to meet requirements, was unfit for domestic purposes, and five water tanks had to be run daily from Madura Junction to Virudhunagar Junction practically throughout the year. Trial bores made in the bed of the Arjuna river, 12 miles from this town, gave favourable results as to quality and yield of water. A 12-ft. infiltration well and a 30 ft. collecting well have been constructed and the water taken through an 8-inch main to the overhead tanks in the Virudhunagar Station Yard, meeting the requirements in full.

70. Important works sanctioned.

Integral Coach Factory, Perambur.—For some time past the existing resources in India for building coaches were found insufficient to meet the increased demand of coaching stock on Indian Railways. The necessity was, therefore felt of establishing a factory in India specially designed for the construction of carriages of all-steel light weight construction by modern methods of production. A technical aid agreement in this respect was accordingly entered into with a Swiss firm, Messrs. Swiss Car and Elevator Manufacturing Corporation, Schlieren, Zurich, Switzerland which had made considerable progress in the development of this design.

The factory is expected to cost Rs. 4·5 crores approximately. The construction work has since started and the factory is expected to go into production in 1955. It is designed to produce 350 broad gauge bogie unfurnished coaches per year by working single shift. The furnishing of coaches will be done in Railway workshops where the capacity exists for this class of work.

Railway Research and Testing Centre at Lucknow.—As work on a number of National laboratories and other research institutions in the country was already in progress, and it was known that the British Railways and other large organizations in the United Kingdom and Europe were also overhauling their research sections it was felt that a careful study of all these developments should first be made and full advantage taken of the information and facilities that they could make available to the Indian Railways from other sources before finalizing the schemes sponsored by the Railway Administrations. It has accordingly been decided that a Railway Research and Testing Centre specially equipped and organized for investigation and testing under service conditions, problems and materials pertaining to railway operation in general and track and wheels in particular, should be established and located at Alambagh, Lucknow. An estimate amounting to Rs. 18·49 lakhs has been sanctioned to meet the cost of this scheme and the work is nearing completion.

Carriage and Wagon Repair Centre at Jagadhri.—Prior to the partition of the country, repairs to the carriage and rolling-stock of the old North Western Railway were carried out at the Moghalpura Workshops which subsequently fell in the territory of the Pakistan. The newly formed Eastern Punjab Railway, after the partition of the country had no workshop in which its broad gauge rolling-stock could be repaired. At the time of partition an agreement was reached with the Pakistan Government to the effect that major repairs to the rolling-stock of the Eastern Punjab Railway would be carried out at Moghalpura. This agreement, however, has not worked satisfactorily and the periodical overhaul of this Railway is at present being done in the workshops of various Indian Government Railways. To make the Eastern Punjab Railway self-sufficient in this respect the necessity of establishing a carriage and wagon repair centre was felt and it was decided to locate it at Jagadhri. An estimate amounting to Rs. 64·80 lakhs has been sanctioned to cover the cost of the scheme and the work is well in progress.

71. Bridge strengthening and protection programme.—Details of important items relating to bridges completed or in progress at the close of the year are given below:

Assam Railway—

Dehing Bridge at mile 571/17-23 on Tinsukia-Furkating Section which was damaged by the last earthquake was restored by rebuilding of pier No. 2, rebuilding of bed blocks of pier No. 3, adjustment of levels of girders and alignment of track over the bridge.

Extension of the left guide bund and weir for Beki bridge at mile 194/1-6 between Sorbhog and Barpeta Road which was taken up in previous years was completed during the year under review.

Extension to right guide bund of Beki Bridge was taken up and the work was in progress.

Extension to the left guide bund of Dhansiri bridge at mile 46/4-9 between Rowta Bagan and Majbat on Rangiya-Rangapara North branch was completed.

Balason River between Siliguri Junction-Bagdogra had no guide bund on the right bank. This was provided during the year and the left guide bund was strengthened. A short bund was also provided in Badiamani between Adhikari and Galgalia.

Bengal Nagpur Railway—

Strengthening of weak 100 ft. spans at Bilaspur and Adra Districts.—The work of strengthening nine spans in Mand Bridge in Jharsuguda-Bilaspur Section was taken in hand and the work is in progress.

Central Railway—

Bina-Kotah Section.—The work of regirdering 1/30 ft. girder bridge at mile 725/8, was completed.

Replacing trough span of 1/10 ft.-0 in. bridge between E.S. 3/24 and E.S. 3/25 near Currey Road mile 3/3765 ft. with girder spans. The work was completed.

East Indian Railway—

A new spur $2\frac{1}{2}$ miles upstream of Bridge No. 101 across Ganga River near Rajghat Narora mile 72/3630 (Moradabad Division) to prevent outflanking of the left guide bund was constructed. 44 girder bridges were strengthened during the year.

Eastern Punjab Railway—

Cracked masonry and bed stones of West Beyne Bridge No. 53 at mile 269/3-4 on Amritsar-Ludhiana Section were renewed and the following new bridges were provided:

Five spans of 20 ft. skew girder bridge No. 6A at mile 3/0-2 for Sidhwan Branch on Ludhiana-Ferozepur Cantt. section.

Five spans of 20 ft. skew girder bridge No. 2A at mile 2/15-17 for Sidhwan Branch on Ludhiana-Jakhal section.

Three spans of 20 ft. girder bridge No. 100A at mile 38/13 on Hussainiwala-Bhatinda section.

Three spans of 40 ft. girder bridge in place of 3×20 ft. girder bridge No. 96 at mile 31/1-12 on Lohian Khas-Nakodar section.

Oudh Tirhut Railway—

Elgin Bridge (17×200 ft. G) between Gogra Ghat and Chowka Ghat.—As a result of model experiments carried out in the Irrigation Research Station at Bahadurabad, a 1,500 ft. long spur was constructed upstream of the bridge and certain protective pitching was done round piers and down stream of the bridge. These will have the effect of improving the flow of the river through the bridge and safeguarding the bridge and its upstream approach from further damages.

Kosi Bridge (15 × 200 ft. G) between Kursela and Katareah.—Work on the provision of an armoured nose and additional pitching on the apron of the left upstream guide bund was completed this year. These protective measures will ensure safety of the guide bund against attacks of the stream in its new channel.

Southern Railway—

Salem District—Erode Branch—4 × 15 ft. arch bridge No. E.199 between Pugalur and Noyyal reconstructed as 2 × 30 ft. span girders bridge and Bridge No. E.195 on this length was strengthened.

Main line, Jalarpet—Podanur—A new bridge No. 372/A at mile B.250/13-14 (4 × 12 ft. spans Reinforced Cement Concrete slab bridge) was provided for the P. W. D. in connection with the Lower Bhavani Project.

Western Railway—

Under the scheme for regirdering and reconditioning girders and rebuilding defective sub-structures of bridges which were not strong enough to carry 20-ton axle loads, 15 bridges were completed during the year. Eight arch culverts were strengthened by guniting and providing R. C. C. struts wherever necessary.

The renewing and reconditioning of 22 Nos. of 20 ft. spans on Ahmedabad-Viramgam Section was completed during the year.

The renewal of 14 out of 15 × 10 ft.-spans on Ahmedabad-Viramgam and Baroda-Ahmedabad Section was completed during the year.

Narbada Bridge No. 501—Raising the south abutment groyne and providing an adequate apron as protective measures to safeguard the south approach.—The Narbada river which had gradually been cutting its south bank for the past several years had, during the last high floods, further scoured the south bank extensively. The river had cut into within 50 ft. of the south abutment groyne and also attached the existing apron between the old and the new bridges. Protection measures are being investigated at Bona Research Station.

Providing guard rails on major bridges.—The work of providing guard rails on 27 major bridges was completed during the year and the work on 37 bridges was in progress.

72. **Permanent way renewals and welding of rail joints.**—The track renewal programme for 1951-2 originally provided for an expenditure of Rs. 849·31 lakhs on Indian Railways but this provision was subsequently increased by Rs. 153·97 lakhs during the year to cover additional urgent track renewals required as a safety measure on certain Railways. The total provision for the year thus stood at Rs. 10,03·28 lakhs.

Details of some of the important works completed or in progress at the close of the year are given below:

(I) *Assam Railway*—

(i) On the Darjeeling-Himalayan Section, renewal of 2½ track miles of 41¼ lb. track with 50 lb. rails was carried out during the year.

(ii) On the Simaluguri-Moranhat branch, about two miles of steel sleepers have been replaced by wooden ones during the year.

(II) *East Indian Railway*—

(i) *Sealdah Division.*—Primary relaying of 90 lb. B S track on wooden sleepers on Bongaon Section with 90 lb. R B S rails and cast iron (CST 9) sleepers from miles 36 to 40 20-40·20 miles.

(ii) *Howrah Division.*—Primary relaying of 100 lb. D H track on cast iron (D & O) sleepers on the Up Main line with 90 lb. R B S rails and cast iron sleepers from miles 9·10 to 13·89 = 4·79 miles.

(iii) *Asansol Division.*—Primary relaying of 100 lb D H track on cast iron (D & O) sleepers on the Down Main line with 90 lb R B S rails and cast iron sleepers between miles 132·21 and 136·97=4·76 miles.

(iv) *Asansol Division.*—Secondary relaying with 100 lb B S F F rails and cast iron (D & O) sleepers on Main line (Single) between miles 132·16 and 136·96=4·80 miles.

(v) *Allahabad Division.*—Primary relaying of 85 and 88½ lb BH track on cast iron (D & O) sleepers on the Main line with 90 lbs RBS rails and cast iron sleepers between miles 585·20 and 590·07=4·87 miles and 604·64 to 619·75=15·11 miles.

Altogether about 50·7 miles of primary relaying and 7·50 miles of secondary relaying was completed on the East Indian Railway during the year.

(III) *Bengal Nagpur Railway*—

(i) Primary relaying of 20·5 miles of 90 lb B S rails on steel sleepers and C. I. plate sleepers with 90 lb R rails on wooden sleepers between Howrah and Khargpur, which was commenced in 1950-1 was completed during 1951-2.

(ii) Renewing 12 miles out of 24·588 miles of 85 lb B N rails with 90 lb new RBS rails on existing sleepers between Baruva and Naupada.

(iii) Renewing 10·525 miles of 75 lb B N rails with 90 lb R B S rails between Anuppur and Sahdol on existing sleepers on the Katni Branch.

(IV) *Oudh Tirhut Railway*—

(i) Replacing 32 miles 50 lb rails and fastenings and also points and crossings with 60 lb rails between Khagaria and Barauni which was commenced during 1950-1 was completed during 1951-2.

(ii) Replacing 24·5 miles 50 lb rails and fastenings and also points and crossings with 50 lb RBS rails and one additional sleeper per rail between Lucknow and Burhwal.

(V) *Jodhpur Railway*—

Primary relaying of 13·5 miles track from mile 0/7½ to 9/14 and 11/4½ to 15/12 on the main line between Kuchaman Road and Makrana.

(VI) *Western Railway*—

(i) Relaying of 23 miles of 90 lb BS rails on cast iron pot sleepers (N+1) with 90 lb RBS rails on steel trough sleepers (N+4) between Navsari and Udhna section, which was taken in hand in 1950-1 was completed during 1951-2.

(ii) Replacing 22 miles cast iron pot sleepers (N+1) with cast iron (CST 9) sleepers (N+3) between miles 326½ and 338½ and mile 416/1 to 426 on the Ratlam District. The work was commenced during the year 1950-1 and was completed in 1951-2.

(VII) *Central Railway*—

(i) *Poona Division.*—Relaying of 82 lb BH track on cast iron pot sleepers with 90 lb RFF rails partly on cast iron (CST 9) sleepers with Duplex sleepers at joints and partly on wooden sleepers, between miles 233·35 and 261·50=27·61 track miles between Kurduwadi and Mohol (Poona-Raichur Section).

3·5 miles were relaid during the year.

(ii) *Jabalpur Division.*—Relaying of 80 lb FF, IMR track on cast iron pot sleepers with 88½ lb BH cropped rails on cast iron pot sleepers (with Duplex sleepers at joints) between miles 751·930 to 768·930=16·661 track miles (excluding turnouts) on Bina-Katni section.

3·031 track miles were relaid during 1950-1 and 13·630 track miles were relaid during 1951-2.

(iii) *Jhansi (North Division)—Agra-Delhi Chord.*—Relaying of 85 lb BH track on cast iron pot sleepers with 90 RFF rails on cast iron (CST 9) sleepers with Duplex sleepers at joints from mile 914·00 to 949·48=34·71 track miles.

3·25 track miles were relaid during 1950-1 and the balance has been relaid during the year 1951-2.

(iv) *Jhansi (South Division).*—Replacement of steel trough sleepers in 75 lb track with modified cast iron (CST 9) sleepers on the Bhopal—Ujjain section between miles 520·510 and 544·290 and 552·839 and 557·149=28 track miles.

(VIII) *Southern Railway*—

(i) Renewal of 7 miles 41¼ lb FF track on wooden sleepers with 60 lb rails on wooden sleepers between Visalur and Tiruvarur.

(ii) Renewng 11 miles 41¼ lb track on wooden and Steel sleepers with 80 lb BH cropped rails on cast iron pot sleepers on main line and loop lines between miles L. 344/14½ and L. 355/12-13 between Pollachi and Kinattukkadavu.

(iii) Renewal of 17 miles 50 lb BH track on cast iron pot sleepers with 60 lb rails on wooden and cast iron (CST 9) sleepers between Manamadurai and Ramnad.

(iv) Renewing 12 miles 50 lb BH track on cast iron pot sleepers with 50 lb RFF rails on new wooden sleepers between Mugaiyur and Tandarai.

Welding of rail joints.—During the year welding of rail joints was done on the following Railways:

(1) *Western Railway.*—Welding of rails on the 23 mile portion being relayed between Navsari and Udhna was completed during the year. The joints were welded at site by the Thermalite process in panels of 5 rail lengths every fifth joint being fishplated.

(2) *East Indian Railway*—

(i) 3,000 rail joints on a length of 10 miles between miles 299·50 and 309·50 on the Grand Chord Line were welded by Thermalite welding process.

(ii) 840 rails in 132′ and 128′ lengths equivalent to a length of 10·07 miles were welded by Flash Butt Welding process on the Lucknow-Moradabad Section.

73. **Chittaranjan Locomotive Works.**—All the Civil Engineering Works for this Project were completed during the year 1951-2.

74. **Wireless communication on railways.**—The wireless system has contributed appreciably towards increased efficiency of traffic operation on the Railways this year. An increase in operational efficiency has been derived by unifying the operation of wireless and telegraph system circuits at certain stations on some of the railways, with a common supervision of all circuits and locating the receipt and delivery of traffic from the same point. Installation of low, medium or high power transmitters has been completed in the telegraph offices on the Central and North Eastern Railways. Implementation of the same policy at some of the other stations is also receiving attention.

Additional wireless links have been established during the year on the Central, Western and Northern Railways. Mobile wireless sets were also installed at important stations in connection with (*a*) the visit of the President of Indian Union to Suri, (*b*) visit of the Prime Minister to Chittaranjan Locomotive Works and (*c*) Kartiki Mela.

Wireless communication has also served purposes in an emergency such as breakdown of land lines or accidents in uncontrolled sections.

A special equipment in connection with instrument for measurement of flange pressure in the Oscillograph Car of the Central Standards Office (Railway Board) was manufactured by the Central Railway.

75. **Improvements to line telecommunication on railways.**—Fairly good progress has been made as regards the Tele-communication (Line) Improvement Schemes. Old and obsolete type of apparatus, since in use by some of the Railways has been replaced by modern dial type of control sets. Replacement of worn-out train control equipment so far made has contributed to a considerable improvement of the speech efficiency.

The Administrative Trunk Telephone line on the Assam Railway from Pandu to Katihar passing through two Railway exchanges at Alipur Duar Junction and Siliguri Junction was completed during the year and was brought into operation at the end of the year. The telegraph circuit between Siliguri Junction and Katihar was also superimposed on the Administrative Trunk line. This has facilitated the messages being sent direct between Siliguri Junction and Katihar avoiding a transit at Kishenganj.

With a view to improving the speech efficiency of the Railway Administrative Trunk Telephone, repeaters were installed or resited at certain stations on the Western Railway.

In order to establish communication with the Control office by tapping the 'Control' lines in emergencies or accidents, mail and express trains running in controlled sections are being equipped with portable control type telephones. These telephones form part of the rake equipments and are kept in the custody of the guards for use during emergencies.

CHAPTER V

RAILWAY COLLIERIES

76. Output from principal railway collieries.—The total output from the principal railway collieries during the year 1951-2 as compared with that during the previous year is shown in the accompanying table. There has been an increase of 548,318 tons or 21·03 per cent as compared with the output of the previous year.

OUTPUT OF COAL FROM RAILWAY COLLIERIES DURING 1951-2

(Figures in tons)

Colliery	Railway	1950-1	1951-2 Total	Selected A	Selected B	Grade I	Grade II	Grade III A	Grade III B
1. Bhurkunda	E. I.	151,994	**180,604**	..	**64,165**	**116,439**	..	..	..
2. Kargali	Central	514,505	**612,036**	..	..	**612,036**	..	..	..
3. Kurharbaree and Serampore	E. I.	326,097	**309,004**	**229,227**	**58,102**	..	..	**16,837**	**4,838**
4. Joint Bokaro	E. I. & B. N.	1,044,614	**1,436,097**	..	..	**1,373,574**	**62,523**	..	..
5. Joint Sawang	E. I. & B. N.	34,324	**43,802**	..	..	**43,802**	..	..	..
6. Jarangdih	Western and Southern	23,885	**23,352**	..	..	..	**23,352**	..	..
7. Talchar	Southern	119,413	**133,967**	..	..	..	**133,967**	..	..
8. Kurasia	Western	232,872	**228,967**	..	..	**228,967**	..	..	..
9. Argada	B. N.	99,099	**100,797**	..	..	**100,797**	..	..	..
10. Deulbera	B. N.	60,550	**87,045**	..	..	..	**87,045**	..	..
	TOTAL	2,607,353	**3,155,671**	**229,227**	**122,267**	**2,475,615**	**306,887**	**16,837**	**4,838**

The total quantity of coal despatched by railway collieries during 1951-2 amounted to 2,395,644 tons, of which 2,335,107 tons, or 97·5 per cent were despatched to Indian Railways. This represents 21·6 per cent of the total coal consumption of railways during the year.

77. Coking coal.—The particulars of the coking coal produced by railway collieries during the year are summarized in the following statement:

QUANTITY OF COKING COAL PRODUCED BY RAILWAY COLLIERIES DURING 1951-2

Colliery	Grade	Tons produced	Quality of coal and where used
1. Kargali	Grade I	612,036	**Inferior coal of high ash content and poor coking proportion; used entirely for goods service.**
2. Giridih (Kurharbaree and Serampore)	Selected 'A'	229,227	**Best high grade coking coal, the dust of which is manufactured into hard metallurgical coke for use in railway foundries and workshops; used for mail and express goods services.**
	Selected 'B'	58,102	
	Grade IIIA	16,837	**Very inferior coking coals unsuitable for metallurgical purposes owing to high ash content; used for the goods and shunting services.**
	Grade IIIB	4,838	

QUANTITY OF COKING COAL PRODUCED BY RAILWAY COLLIERIES DURING 1951-2—*contd.*

Colliery	Grade	Tons produced	Quality of coal and where used
3. Joint Bokare	Grade I	1,373,574	Inferior grade coal, the dust of which only is suitable for metallurgical purposes; the seam worked as a whole, owing to high ash content is unfit to be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to; used entirely for goods services.
	Grade II	62,523	Very inferior coking coal; unsuitable for metallurgical purposes owing to high ash content; used entirely for goods services.
4. Joint Sawang	Grade I	43,802	Inferior grade coal, the dust of which only is suitable for metallurgical purposes; the seam worked as a whole, owing to high ash content, unfit to be used even for blending with high grade coals, unless intensive cleaning and washing is resorted to, used entirely for goods services.
5. Jarangdih	Grade II	23,352	Very inferior coal, unsuitable for metallurgical purposes; used for slow goods and passenger services.
6. Argada	Grade I	100,797	Inferior grade coal unsuitable for metallurgical purposes owing to its high ash content; used for goods and shunting services.

78. Total coal consumed by railways.—The total amount of coal consumed on Class I, Class II and Class III Railways during the year is shown below, along with figures for the previous year:

	Tons 1950-1*	Tons 1951-2
Class I Railways	10,318,882	**10,726,755**
Class II Railways	29,929	**28,418**
Class III Railways	55,402	**52,288**
Total	10,404,213	**10,807,461**

*Revised figures.

The distribution by grade of the total quantity of coal consumed by railways is as follows:

Grade	Tons 1950-1*	Tons 1951-2
Selected A	1,070,104	**1,009,064**
Selected B	2,637,866	**2,515,582**
Grade I	4,785,594	**5,293,501**
Grade II	1,357,975	**1,404,242**
Grade III—A and B	105,096	**89,742**
Small coals	447,578	**495,330**
Total	10,404,213	**10,807,461**

* Revised figures.

NOTE.—The grade-wise figures of coal received on the Gondal region of the Western Railway and the Assam Railway during the year 1951-2 not being known, they have been distributed on an estimated basis.

79. Coal mined in India.—In 1951-2, the coal mined in the various provinces of India amounted to 35,148,949 tons as against 32,325,760 tons in 1950-1, an increase of 2,823,189 tons.

80. Coal despatched by rail.—The quantity of coal carried by the East Indian and Bengal Nagpur Railways during 1951-2 was 28·09 million tons, or 2·21 million tons more than that carried during the previous year. The comparative figures for the two railways are as follows:

	Tons 1950-1	Tons 1951-2
East Indian Railway	16,190,962	**17,347,693**
Bengal Nagpur Railway	9,688,856	**10,737,857**
Total	25,879,818	**28,085,550**

81. Capital invested in and financial results of the working of railway collieries during 1951-2.—Capital invested in, and financial results of, the collieries during 1951-2 are appended below:

FINANCIAL RESULTS OF WORKING RAILWAY COLLIERIES DURING 1950-1 AND 1951-2

Colliery	Total Capital outlay up to 31 March 1952	Earnings during 1951-2	Working expenses during 1951-2	* Profit or loss in working during 1951-2
Bhurkunda	59,55,183	25,96,598	24,69,998	+1,09,358
Kargali	2,43,57,627	84,38,222	1,24,86,127	—41,11,516
Kurharbaree	66,82,951	21,37,651	50,28,686	—28,81,674
Serampore	49,02,841	27,01,665	45,26,388	—19,97,259
Bokaro	84,49,482	2,03,44,116	1,04,28,331	+99,15,726
Sawang	11,63,360	5,07,172	8,54,637	—3,47,354
Jarangdih	81,53,026	3,37,233	7,95,426	—4,87,167
Kurasia	46,00,509	33,89,268	19,11,432	+14,79,190
Talchar	70,58,518	19,78,808	25,43,393	—5,62,184
Argada	99,964	14,76,405	9,46,037	+5,29,920
Deulbera	24,48,418	13,20,688	18,38,822	—5,17,565
TOTAL	7,38,71,879	4,52,27,826	4,38,29,277	+11,29,475

* In arriving at these results 'opening' and 'closing' stock of coal has also been taken into consideration in the last column and as such it will not be possible to arrive at these figures on the basis of figures of earnings and expenses shown in the table.

The *plus* and *minus* signs against the figures in the last column represent profit and loss respectively. The capital invested represents the fixed and floating assets less sinking fund.

The figures given above are provisional as the accounts for the period ending 14 August 1947 have not yet been finally closed.

Working of railway collieries for the year 1951-2 disclosed a net profit of Rs. 11,29,475. This position has been obtained largely due to the increase in output and the reduction in expenditure all-round.

A large number of labour on the railway collieries is surplus to requirements and this has been investigated by a Fact Finding Committee whose final report has been submitted to the Government of India. The Committee has estimated that there are nearly 5,000 surplus labour in the railway collieries. There would be a saving of nearly Rs. 50 lakhs per annum if all this surplus labour could be retrenched. The Fact Finding Committee's Report is under the consideration of the Government of India.

82. Railway collieries and labour.—The relations between the labour and the administration were satisfactory and no strike occurred in any colliery during the year.

The general health of the labour was good throughout the year.

The following amenities were provided for the labour employed in the railway collieries during the year:

(1) The installation of a Jewel Filter Plant in the Kargali Colliery was completed and put in operation.

(2) The Jewel Rapid Gravity Filter started functioning in the Bokaro Colliery during the year and it has successfully removed a long felt want.

(3) Three Primary schools were maintained from the Labour Welfare Fund, and film shows and other instructive programmes were conducted by the Welfare Department in the beginning of the year in the Kargali Colliery.

(4) The construction of 24 miners' houses, *Mazdoor* Club, creches at Papratand and Lancaster Hospital and Pit Head Bath at Bhadua were completed in Giridih (Kurharbaree) Colliery and 16 miners' houses, Creche and a 'D' category Pit Head Bath were completed in the Giridih (Serampore) Colliery.

(5) The construction of Pit Head Baths was completed in Kurasia Colliery.

(6) Twenty-eight women workers were paid maternity benefit during the year in the Argada Colliery.

CHAPTER VI

ROLLING-STOCK AND MATERIALS

83. Renewals and additions to equipment.—

Locomotives.—The number of new standard locomotives ordered and placed on line during the year is as follows:

	Broad gauge	Metre gauge
Number ordered	124	50
Number placed on line	75	28

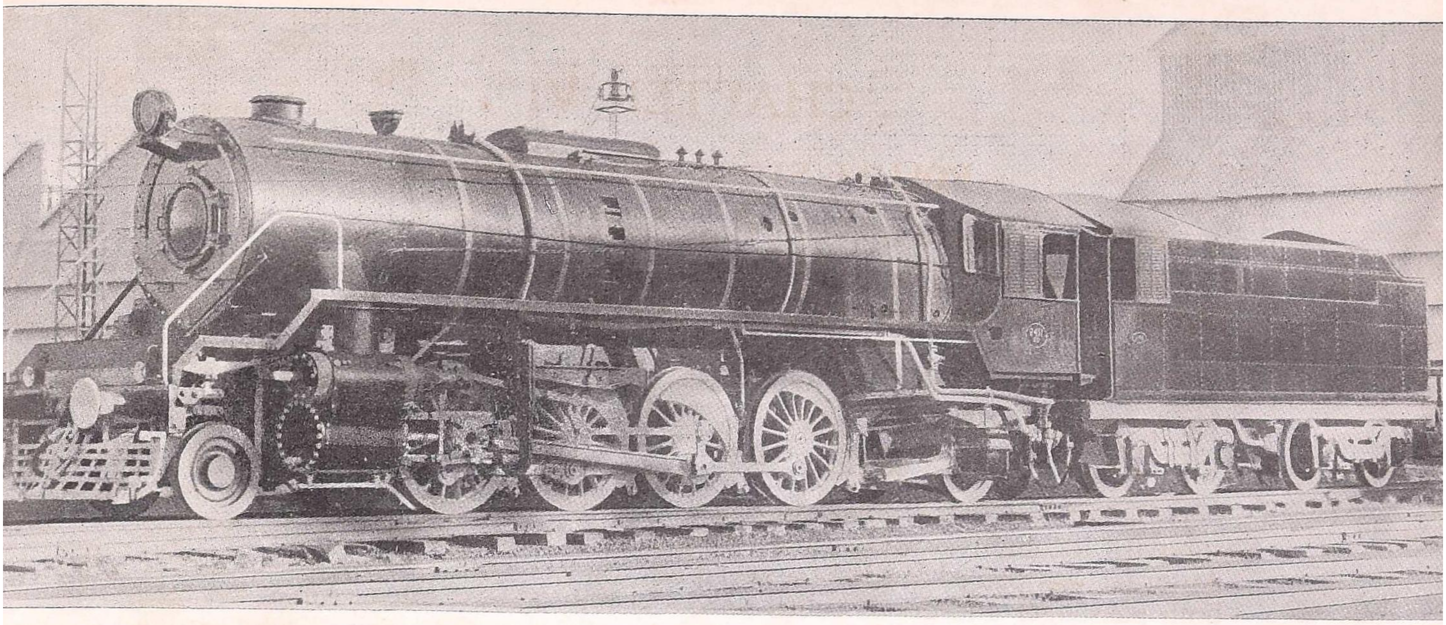
Out of 124 broad gauge locomotives ordered, orders for 107 WG Class standard locomotives were placed with the Chittaranjan Locomotive Works. An order was placed abroad for seven electric locomotives designed to operate both passenger and goods trains on the heavily graded Ghat section between Poona and Bombay. An order was placed for 10 prototype broad gauge locomotives of the WL Class, one of the new standard types designed in India principally for use as light passenger engines. The 50 metre gauge locomotives ordered were of the YP class standard main-line passenger locomotives. This order was placed in India with the Tata Locomotive and Engineering Company.

Coaching stock.—Apart from utilising all the available carriage building capacity in railway workshops orders were placed on manufacturers for the supply of 432 broad gauge and 450 metre gauge coaching vehicles. The distribution of the orders was as follows:

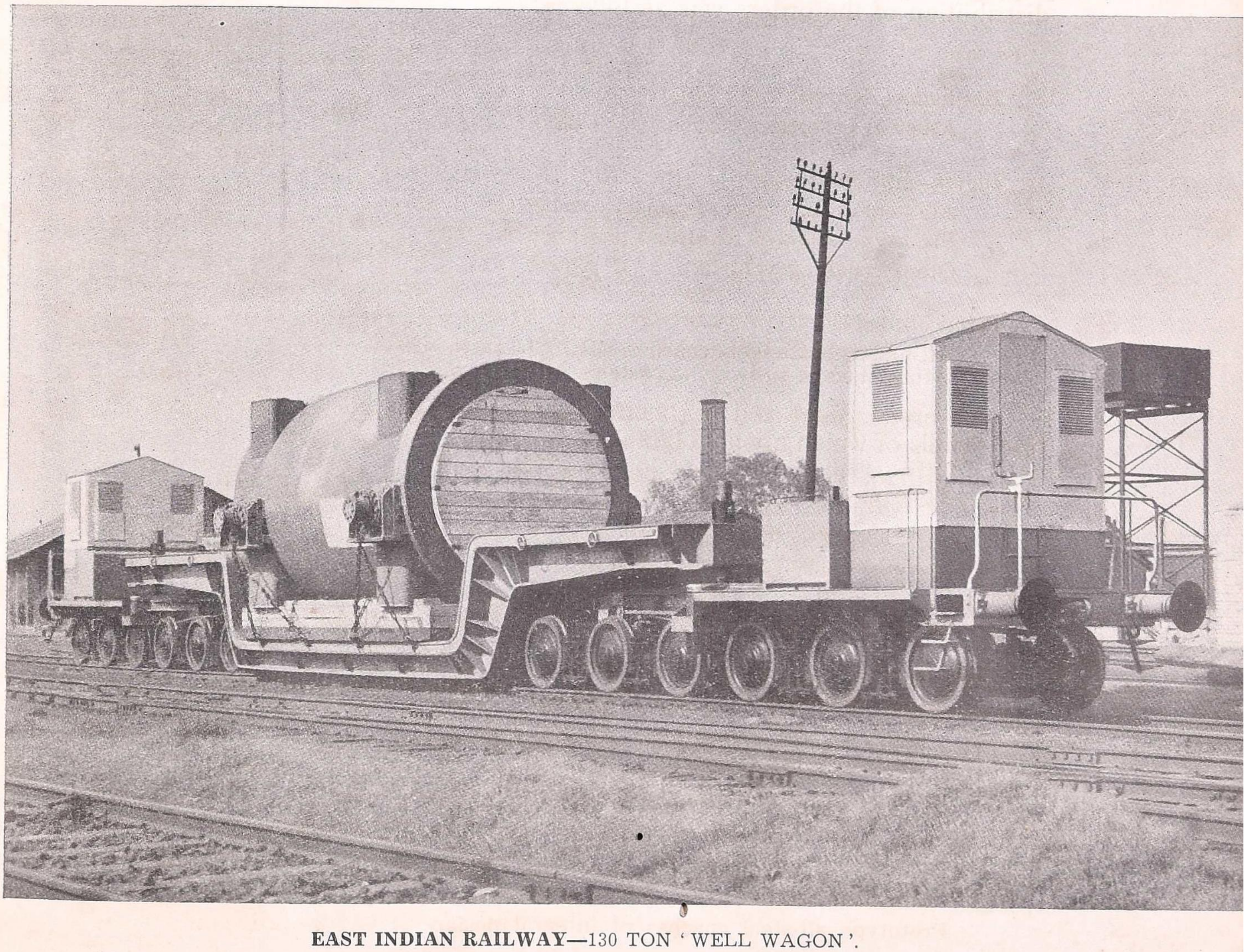
	Broad gauge	Metre gauge
Hindustan Aircraft Ltd., Bangalore—		
All-steel passenger coaches (III Class)	300	...
Indian manufacturers—		
All-steel unfurnished passenger coaches (III Class)	...	250
Prototype all-steel furnished passenger coaches	2	...
Other coaching vehicles	130	...
Firms abroad—		
All-metal passenger coaches (III Class) to be furnished in railway workshops in India	...	200

507 broad gauge and 264 metre gauge coaching vehicles were placed on line, details of which are as follows:

	Broad gauge	Metre gauge
Manufactured in railway workshops—		
Passenger coaches (Upper class)	31	54
(Lower class)	108	172
Other coaching vehicles	39	38
Manufactured by Hindustan Aircraft Ltd.—		
All-steel passenger coaches (III Class)	100	...
Constructed by Indian Wagon manufacturers and furnished in railway workshops—		
All-steel passenger coaches (III Class)	131	...
Imported—		
Electric multiple-unit coaches for Bombay suburban traffic	96	...
Prototype all-steel coaches of integral design	2	...



CHITTARANJAN—WG LOCOMOTIVE FROM CHITTARANJAN.



EAST INDIAN RAILWAY—130 TON 'WELL WAGON'.

Goods stock.—The number of wagons, in terms of four-wheelers, ordered and placed on line during the year is given below :

	Broad gauge	Metre gauge
Number ordered	6,714	4,431
Number placed on line	2,254	2,359

The orders included 5,400 broad gauge and 2,800 metre gauge general service wagons, 400 broad gauge and 400 metre gauge tank wagons, and 2,145 broad and metre gauge special types of wagons.

The requirements of wagons have been in excess of the indigenous capacity, and accordingly orders to the extent of 2,264 wagons were placed abroad to supplement the supplies from indigenous sources. All the figures given above are in terms of four-wheeled units.

84. Locomotives.—The average tractive effort per steam locomotive expressed in lbs. on Class I Railways during 1951-2 records, as compared with 1950-1, an increase on broad gauge and a decrease on metre gauge. It may, however, be mentioned that the figures of ex-Class II and III Railways integrated into the Western Railway are included in working out the average on metre gauge for 1951-2 whereas they are not included for 1950-1. The average tractive effort for diesel-electric locomotives and electric locomotives remained the same as during the last year. The detailed figures for the different classes of locomotives are shown in the following table :

AVERAGE TRACTIVE EFFORT PER ENGINE IN LBS

Locomotives	Broad gauge		Metre gauge	
	1950-1	**1951-2**	1950-1	**1951-2**
Steam (including Sentinel and Clayton types)	28,198	**28,552**	16,536	**16,265**
Diesel electric	*26,965	**26,965**	..	..
Electric	*31,015	**31,015**	10,400	**10,400**

*Revised.

85. Manufacture of boilers and locomotives in India.—A second order was placed on the Chittaranjan Locomotive Works for 107 standard broad gauge goods locomotives, WG Class. This order was in continuation of an earlier order for 100 locomotives of the same class. During the year 17 locomotives were completed against the first order. There was a progressive increase in the production of locomotive components as manufacturing processes were established, and 50 per cent of the components for 14 out of the 17 locomotives completed were manufactured in Chittaranjan. Preparatory work in connection with the manufacture of boilers was also undertaken, and flanging, rolling and machining of plates for initial sets of boilers were in progress.

An order for 50 standard metre gauge passenger locomotive YP Class, was placed on Messrs. Tata Locomotives and Engineering Co., during the year. They are scheduled for delivery from October 1953. Ten metre gauge goods locomotives against the previous order on the firm for 50 YG class were delivered during the year.

No new order for boilers was placed on Messrs. Tatas during the year. The total outstandings on 31 March 1951 against the previous orders on the firm amounted to 155 boilers out of which 15 were delivered in the course of the year.

WORKSHOPS.

86. Repairs to locomotives in railway workshops and running sheds.—As compared with 1950-1 the number of engines under or awaiting repairs in workshops and running sheds registered a slight decrease in the year as shown by the figures summarized in the following table :

AVERAGE NUMBER OF LOCOMOTIVES UNDER OR AWAITING REPAIRS

Gauge	Year	In Mechanical Workshops		In Sheds and Transportation Shops	
		Number	Percentage to average total No. on line	Number	Percentage to average total No. on line
Broad gauge (Steam)	1950-1	276	5·25	722*	13·7*
	1951-2	**249**	**4·76**	**707**	**13·5**
Metre gauge (Steam)	1950-1	176*	6·74*	287*	11·0*
	1951-2	**166**	**6·26**	**259**	**9·77**
Narrow gauge	1950-1	31*	10·3*	39	13·0*
	1951-2	**29**	**9·39**	**40**	**12·9**

* Revised figures.

The overall position of engines out of service also improved.

87. Rationalization of workshop capacity.—The Eastern Punjab and Assam Railways which were left without workshop capacity after partition continued to receive assistance from other railways in the periodical overhaul to their locomotives. Both these railways, however, have developed a certain amount of capacity for such work in their running sheds to reduce the additional load placed on the other already overloaded workshops of Indian Railways. The Eastern Punjab Railway dealt with approximately two periodical overhauls per month and all intermediate repairs in their running sheds and the Assam Railway dealt with 2·7 periodical overhauls and all the intermediate repairs required by them.

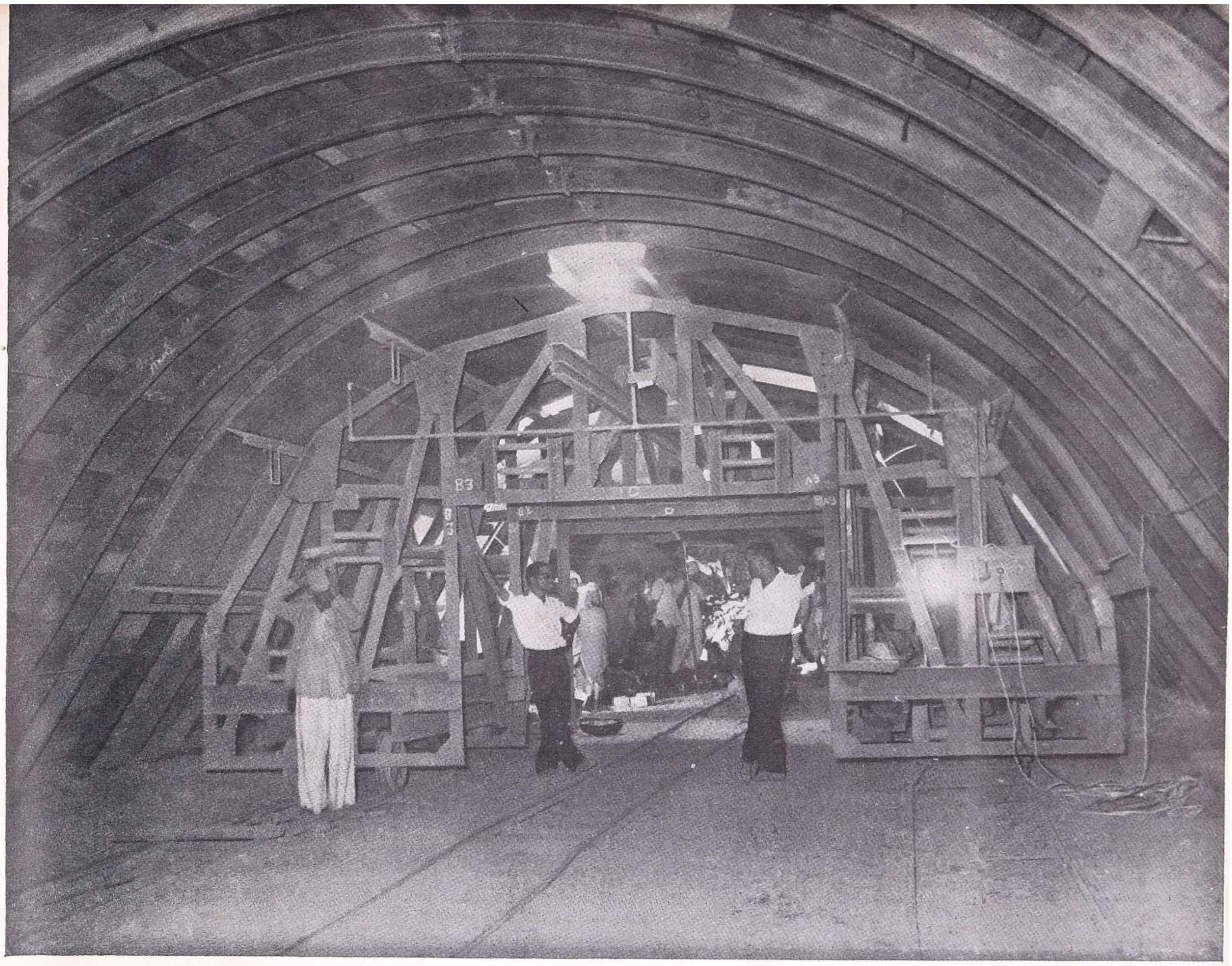
88. Rationalization of manufacturing capacity in railway workshops.—The question of the modernization of railway workshops, running sheds and sick lines continued to receive consideration.

During the year, a meeting of the Central Committee to direct the rationalization of the manufacture of locomotive spare parts, was held at Chittaranjan when some locomotive duplicates which lend themselves to mass production with special jigs and tools were farmed out to selected Railways for manufacture on all-India basis.

89. The Railway Stores Enquiry Committee, 1950-1.—In September 1950 the Government of India, Ministry of Railways, set up the Railway Stores Enquiry Committee under the Chairmanship of Mr. A. D. Shroff, Director of Tata Sons Limited, with three official members, representing Railway stores, Railway finance and the Ministry of Industry and Supply. The terms of reference of the Committee were to carry out a review of the working of the Stores Organizations on Indian Railways and to suggest improvements therein and the policy to be followed in developing indigenous production to meet railway requirements.

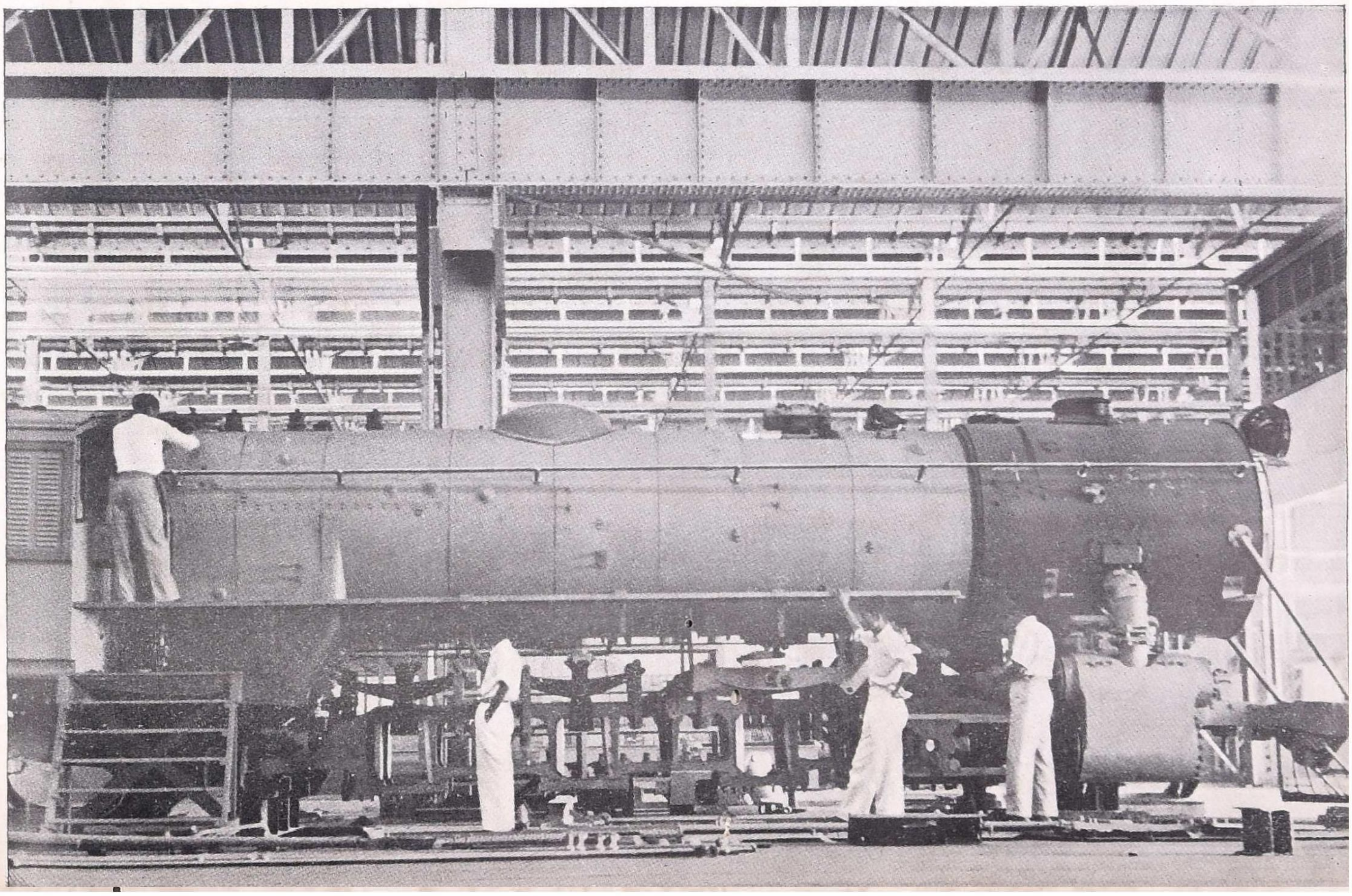
The Committee submitted its report in April 1951. The more important of its recommendations are :

(1) The present arrangements for obtaining supplies of railway stores, under which the responsibility rests on another Ministry, should be radically altered and the responsibility for obtaining supplies of items peculiar to railways and of those common user items which are essential for railway operation and workshop production should be placed on the railways themselves. Other



CENTRAL RAILWAY—TRAVELLING STAGING FOR TUNNELLING WITH A SHIELD FOR PROTECTING WORKMEN FROM ROCKFALLS DESIGNED AND CONSTRUCTED BY RAILWAY ENGINEERS ON THE PROJECT.

TELCO—YG LOCOMOTIVE UNDER CONSTRUCTION.



common user items may continue to be obtained from existing Government agencies working under other Ministeries. The Committee anticipated that this change would result in considerable saving in expenditure in the commission payable to supply agencies, dividend on capital invested on account of diminution of stores holdings, and lower prices through better planning, greater co-ordination and elimination of non-standard stores.

(2) A strong Centralized Stores Organization charged with functional responsibility for general superintendence and control over stores transactions on all railways under a high level officer, preferably of the status of a Member, Railway Board, should be set up. This organization should, in addition, be responsible for procurement of important items of capital stores and equipment and other specialized items amenable to bulking as also for all imported stores items which should be cross-mandated on Director General, India Stores Department, London, or India Supply Mission, Washington.

(3) A fuller investigation should be immediately undertaken in regard to heavy stocks at present carried by railways, with a view to better utilization of items in short supply on other railways or in other Government Departments. All railways should immediately be directed that before the end of the current year, reduction of Stores balances, appropriate to each railway should be brought about with the object of attaining an overall reduction of Rs. 10 crores.

(4) Railways should effectively contribute towards the development of new industries in the country by making available to potential manufacturers the results of their own research and also by providing tests and laboratory facilities which cannot normally be provided by individual manufacturers.

The various recommendations made in the report were accepted by the Ministry of Railways and arrangements made for their implementation.

90. Wooden sleeper purchase organization.—The Sleeper Groups purchased the following wooden sleepers during 1951-2 :

—	Broad gauge	Metre gauge	Narrow gauge	Specials
	No.	No.	No.	No.
(1) Northern group	45,372	2,68,695	8,245	39,651
(2) Southern group	9,147	62,426	—	14,395
(3) Eastern group	2,46,069	4,09,090	1,07,461	76,189
TOTAL	3,00,588	7,40,211	1,15,706	1,30,235

The total expenditure of the sleeper groups during the year, together with the value of sleepers and specials purchased by them, are given below :

—	Expenses of the group	Value of purchases made
	Rs. A. P.	Rs. A. P.
(1) Northern group	72,212 0 0	37,37,094 9 0
(2) Southern group	42,003 2 0	10,83,175 0 0
(3) Eastern group	3,64,887 13 0	1,02,56,590 9 0
TOTAL	4,79,102 15 0	1,50,76,860 2 0

The Sleeper Pool Organization also arranged inspection of approximately 48,480 tons timber and 9,188 numbers of planks and boards against orders placed by Director General, Supplies and Disposals for Railways.

The average price of first class sleepers in the various sleeper groups was as under:

	Broad gauge Rs. A. P.	Metre gauge Rs. A. P.
(1) Eastern group	17 15 8	7 15 8
(2) Southern group		
Private contractor	17 8 8	12 15 10
Bombay Forests	14 8 0	11 6 0
(3) Northern group	17 8 4	7 13 0

At Dhilwan creosoting plant on the Northern Railway, 1,19,125 broad gauge, 90,888 metre gauge, 73 narrow gauge sleepers of coniferous species and 34,682 three-foot-ends of *chir* sleepers were treated during the year with a mixture of 40 per cent creosote and 60 per cent fuel oil. The details are given in the statement below.

Besides these, 368 *chir* poles were treated for the Public Works Department. *Chir* sleepers were treated by the Rueping process and the *Fir, Kail, Deodar* and sleepers mixed *Haldu-Asna,* etc., by the Full-cell process. 368 *Chir* poles for Public Works Department were treated by the Full cell process.

At Naharkatiya treating plant on the North Eastern Railway, 1,310 broad gauge and 85,849 metre gauge, sleepers, mostly of Hollong species, were treated during the year with Creosote-*cum*-Fuel oil, in the proportion of 50:50 by the Full cell process. The average absorption was 6·1 lbs per cft. and the cost of treatment per sleeper was Rs. 6-12-0 per broad gauge and Rs. 3-3-10 per metre gauge sleeper.

SLEEPERS TREATED IN CREOSOTING PLANT AT DHILWAN DURING 1951-2

	Chir			Fir			Kail			Deodar			Mixed Haldu-Asna etc.		
	BG	MG	Ends 3 ft	BG	MG	NG	BG	MG	NG	BG	MG	NG	BG	MG	NG
Number of sleepers treated.	92,249	73,380	34,682	17,993	214	50	354	12,494	23	7,803	..	..	726	4,800	..
Cost of treating per sleeper.	4-11-0	3-7-9	1-1-3	3-7-5	..	1-11-6	4-3-3	3-12-4	1-12-6	2-15-4	..	..	..	..	..
Average absorption of mixture per cft. in lbs.	5·00			4·94			7·25			3·40			8·00		
													Poles Chir (*for PWD.*) 21·57		

91. **Purchase of wooden, cast iron and steel sleepers.**—The number of sleepers of various types purchased by Class I Railways during the year is given below:

	Wooden Nos.	Cast Iron Nos.	Steel Nos.	Total Nos.
B. G.	2,61,571	5,90,072	1,04,178	9,55,821
M. G.	8,26,871	31,267	81,850	9,39,988
N. G.	42,341	—	—	42,341
Total	11,30,783	6,21,339	1,86,028	19,38,150

The relative position of the various kinds of sleepers may be seen from the following percentages based on the total number of sleepers in the track by Class I Railways:

	Wood.	Cast Iron.	Steel.
B. G.	19·4%	52·8%	27·8%
M. G.	74·9%	3·9%	21·2%

92. Value of railway materials purchased.—The total value of stores purchased by the Indian Government Railways during the year amounted to Rs. 97·66 crores. Details of the corresponding figures for the previous year in respect of the *ex*-Nizam's State, Dholpur State, Scindia State, Saurashtra, Rajasthan, Cutch State and Jaipur State Railways now integrated into the Central and Western Railways being not available the usual comparison with the previous year has not been made.

The following statement presents a summary of the stores purchased during 1951-2. The detailed figures are given in Appendix A of volume II of this Report.

VALUE OF RAILWAY MATERIALS PURCHASED DURING 1951-2

(Figures in lakhs.)

Particulars	Imported materials: Purchased direct	Imported materials: Purchased through agents in India	Imported materials: Total imported materials	Indigenous materials	Total
	Rs.	Rs.	Rs.	Rs.	Rs.
(A) Bridge work and its parts, fittings and special fastenings	..	1	1	8	9
(B) Engineering plant and components including all hand and power machinery	5	10	15	14	29
(C) Workshop machinery, plant and equipment including pneumatic machinery and tools	4	1,28	1,32	41	1,73
(D) Permanent way material and track tools	38	8	46	5,66	6,12
(E) Rolling-stock	17,01	3,05	20,06	9,12	29,18
(F) Building materials, water mains, sewage system and track and yard enclosing materials and signal and interlocking materials, etc.	4	15	19	1,51	1,70
(G) Stores, hardware, copper, tin and zincware, all leather canvas and India rubber in bulk, materials painters' stores, timber and fuel oil, etc.	16	1,61	1,77	24,27	26,04
(H) Electrical and train and locomotive lighting plants and materials, etc., and telegraph and telephone equipment	1,03	1,59	2,62	1,27	3,89
All other stores	21	2,53	2,74	25,88	28,62
TOTAL	18,92	10,40	29,32	68,34	97,66

The total debits raised by the Deputy Accountant General, Industry and Supply, New Delhi against various Railways during the year 1951-2 on account of the cash purchases in North America, controlled by the Railway Board, amounted to Rs. 2,20,34,139.

93. **Intake of indigenous goods.**—Of the total value of purchases of railway stores and materials made during 1951-2 by the Indian Railways the value of stores imported direct amounted to Rs. 18,91·81 lakhs. The imported stores purchased in India accounted for Rs. 10,40·85 lakhs. The stores of Indian manufacture or indigenous origin naturally accounted for the bulk of the expenditure, the amount during the year being Rs. 68,33·58 lakhs or 69·97 per cent of the total. The heavy increase in the value of stores imported direct during 1951-2 over the value of similar stores during 1950-1 is mainly due to some of the debits for supplies made during the previous year having been adjusted during the year under review.

The comparative figures of total purchases for 1950-1 and 1951-2 in respect of Indian Railways are given below. These include purchases made through the Ministry of Works, Production and Supply (now Works, Housing and Supply) and other Government agencies and purchases of food grains for Railway grain shops.

TOTAL VALUE OF PURCHASES OF STORES

(In lakhs of rupees)

Year	Stores imported direct	Imported stores purchased in India	Stores of Indian manufacture, or of indigenous origin	Total value of imported and indigenous stores	Percentage of col. 4 to col. 5
	Rs.	Rs.	Rs.	Rs.	
1950-1	7,61·18	10,75·50	63,22·21	81,58·89	77·49
1951-2	**18,91·81**	**10,40·85**	**68,33·58**	**97,66·24**	**69·97**

NOTE.—The figures for 1951-2 also include the value of purchases made for the *ex*-Dholpur State, Scindia State, Saurashtra, Rajasthan, Cutch State and Jaipur State Railways integrated into the Central and Western Railways.

94. **Value of stores purchased through the Ministry of Works, Production and Supply.**—The comparative figures of the value of stores purchased through the Ministry of Works, Production and Supply (now Works, Housing and Supply) for 1950-1 and 1951-2 are shown below:

TOTAL VALUE OF STORES PURCHASED THROUGH THE MINISTRY OF WORKS, PRODUCTION AND SUPPLY

(Figures in lakhs of rupees)

Year	Total value of stores purchased	Value of stores purchased through the Ministry of Works, Production and Supply (now Works, Housing and Supply)	Percentage of col. 3 to col. 2
1950-1	81,58·89	*35,96·79	*44·08
1951-2	**97,66·24**	**39,21·67**	**40·16**

* Revised.

NOTE.—The figures for 1951-2 also include the value of purchases made for the *ex*-Dholpur State, Scindia State, Saurashtra, Rajasthan, Cutch State and Jaipur State Railways integrated into Central and Western Railways.

95. Value of stores purchases controlled by the Railway Board.—As in previous years the Railway Board continued to purchase wagons for Indian Railways, during the year under review, they also placed orders for locomotives, carriages, underframes and wheel sets for these Railways. The value of the stores thus purchased during 1950-1 and 1951-2 by the Railway Board is given below:

(Figures in lakhs of rupees)

Year	Total value of stores purchased	Value of purchases made by the Railway Board	
		Amount	Percentage of the total value of stores purchased
1950-1	81,58·89	5,19·78	6·37
1951-2	**97,66·24**	**14,32·31**	**14·67**

NOTE.—The figures for 1951-2 also include the value of purchases made for *ex*-Dholpur State, Scindia State, Saurashtra, Rajasthan, Cutch State, and Jaipur State Railways integrated into the Central and Western Railways.

96. Direct purchases by railways.—The value of direct purchases by the Indian Railways during 1951-2 amounted to Rs. 44,12·26 lakhs, inclusive of the value of the controlled commodities like iron and steel, coal and textiles. The figures for 1951-2 also include the value of purchases made for the *ex*-Dholpur State, Scindia State, Saurashtra, Rajasthan, Cutch State and Jaipur State Railways integrated into the Central and Western Railways.

97. Rationalized distribution of surplus stock.—Following the recommendations of the Railway Stores Enquiry Committee, the Railway Board introduced a procedure for rationalized distribution of stock on Railways covering:

(1) review of all stocks on 31 March 1951 to declare as surplus items in excess of the immediate requirement of individual railways (*i.e.*, to cover the period taken in procurement *plus* a reserve generally equivalent to 12 months' consumption);

(2) utilization of available surplus stocks on an all-India basis and stoppage of further orders until all the surplus stocks of similar items are fully exhausted;

(3) review of all outstanding indents on the Director General, Supplies and Disposals, with a view to their cancellation wherever necessary and possible in view of the available surpluses.

By 31 March 1952 net reduction of Rs. 3·14 crores has been effected in the ' surplus stocks " after taking into account fresh items added subsequent to 31 March 1951 owing to receipt of supplies against old orders. In addition there was a reduction in the accumulation of scrap material by about Rs. 80 lakhs. Outstanding indents worth Rs. 14 lakhs on the Director-General, Supplies and Disposals were cancelled without any compensation. By the utilization of available surpluses, fresh orders on outside sources have been avoided.

98. Stores balances.—The statement below compares the total stores balances at the end of 1951-2 with those at the end of 1950-1. These figures are provisional as the accounts for the period 1 April to 14 August 1947 have not so far been closed and the balances carried forward in the case of *ex*-States' Railways have not yet been finalized.

VALUE OF TOTAL STORES BALANCES ON RAILWAYS DURING 1950-1 AND 1951-2

(In lakhs of rupees)

	1950-1	1951-2
Assam	*1,98	**2,29**
Bengal Nagpur	6,81	**7,47**
Bikaner State	28	**31**
Central	*12,09	**12,24**
East Indian	13,65	**14,59**
Eastern Punjab	*4,05	**4,08**
Jodhpur	37	**41**
Oudh Tirhut	4,67	**5,21**
Southern	*7,19	**7,15**
Western	*5,62	**6,53**
Other Indian Railways	*1,42	**2,40**
TOTAL	*58,13	**62,68**

* Revised.

There is an overall increase of Rs. 4,55 lakhs in the balance at the end of 1951-2 as compared with the balance at the end of 1950-1. The chief factors responsible for the increase of the balance by Rs. 4,55 lakhs are in addition to general rise in price levels, heavy receipt of locomotive spares, timber and other stores, unexpected receipt of stores against old indents and less issues to works.

99. Timber supply situation.—The table below shows the quantity of timber demanded and the quantity passed after inspection during 1951-2:

SUPPLY OF TIMBER AGAINST INDENTS DURING 1951-2

Period	Quantity indented	Quantity passed
	Tons	Tons
II Quarter of 1951	27,338	15,454
III " " 1951	532	26,391*
IV " " 1951	95	15,350*
I " " 1952	1,821	11,407*
TOTAL	29,786	68,602

* Includes arrears.

100. Steel supply situation.—Steel supply for the Railways during the year 1951-2 was quite satisfactory. Not only the Railways' requirements were met in full, but also the demand of private firms who executed Railway Board's orders for wagons, coaches, boilers and underframes, etc., were met in full.

As regards rails and fishplates, supplies to Railways from indigenous sources were adequate to meet their requirements during the year.

101. Supply position of vital stores or components of importance.— *Imported stores.*—The following are the important stores for which cross-mandates were issued to Director General, India Stores Department, London during the period under review:

1. Boilers,
2. Spares for locomotives,
3. Glass plates polished,
4. Crank axles,
5. Loco wheels and axles,
6. Condenser tubes,
7. Piston rings,
8. Copper plates, and
9. Fag signals.

The general supply position of stores imported from United Kingdom was fairly satisfactory. In certain cases, however, supplies were delayed owing to shortage of supply of raw materials, etc., and other factors beyond control.

There is only one case against old Controller of Imported Railway Stores demands which is still outstanding. This is a late Controller of Imported Railway Stores bulk Indent of year 1946 for supply of lenses and three items are still to be supplied against this demand. It is expected that the demand will be completed in full within a short period.

The important items of railways which were cross-mandated to India Supply Mission, Washington during the period under review were spares for locomotives and masonite hard board sheets. The general supply position of spares, etc., has been fairly satisfactory.

There is one case of late Controller of Imported Railway Stores for supply of gauge glass from Australia which is still outstanding. In this case major portion of several items against the railways' demands have been manufactured and are under shipment. The question of cancellation of balance is under discussion with the Australian authorities.

The position regarding vital items of indigenous stores is given below:

Wheels, tyres and axles.—Messrs. Tatas are the only indigenous manufacturers of these stores. The capacity is fully utilized against the Wagon Building Programme and the maintenance requirements of Indian Railways. The Rolling Stock Programme was drawn out every quarter and supplies arranged on an equitable basis for all the Indian Railways and other private companies commensurate with the urgency of the requirements. Demands for axles are more than the capacity available and supplies are made on the basis of quotas fixed.

Cast Iron Pipes and Special.—The indigenous capacity is very limited and cannot cope with the demands received by the Director General, Supplies and Disposals. The available capacity is booked. Steps so far to establish additional capacity for the manufacture of cast iron pipes of sizes 3" to 12" have not yet borne fruit, the new firms proposed being not yet capable of undertaking manufacture to the requisite standard. The delivery against the Indian Railways' demands was, therefore, affected.

Steel castings.—The indigenous capacity for Standard Steel Castings was surplus and the deliveries were up-to-date. Sufficient capacity is now available for non-standard steel castings also and supply was satisfactory. Sometimes delays take place due to the time required for making patterns, tools, dies, jigs, etc. For heavy and intricate castings the delays had been appreciable.

Permanent way materials.—Supply position of steel continue to be the limiting factor in the production of track materials. There was, therefore, no appreciable improvement in the delivery of fabricated articles to the Railways.

Structurals.—Shortage of steel plates continue to be the main bottleneck in the manufacture and supply of structurals against the railway demands.

Fire-bricks.—Supply position of this store has been fairly satisfactory.

102. Situation regarding theft of railway property.—Seventeen cases of thefts of stores and valuable materials amounting to Rs. 47,397 were reported in the course of the year by the Assam, Bengal Nagpur, Bombay, Baroda and Central India, East Indian and Great Indian Peninsula Railways. In three, out of the seventeen cases, the culprits were caught and the cases against them are pending in the court. In five cases (three on the East Indian, one on the Bengal Nagpur and one on the Great Indian Peninsula) preventive measures have already been taken while in the other cases security measures wherever necessary are being taken to prevent recurrence.

103. Water softening.—Water softening plants are in use on the following railways:

Great Indian Peninsula Railway.—Thirteen plants have been installed on the Poona-Raichur Section out of a total of fourteen programmed for installation. Of these three are Base Exchange plants and the rest are of the Lime Soda type.

Bengal Nagpur Railway.—Water softening plants have been installed along the whole of the East Coast section from Shalimar to Waltair. There are at present eight Lime Soda softeners (four Paterson type and four Kennicott type) and twenty-one By pass feeders. Three Base Exchange plants, which were installed on an experimental basis, have been discontinued.

Bombay, Baroda and Central India Railway.—There are eleven Lime Soda plants (ten of the Kennicott 'K' type and one Lassen and Hjort type) in the broad gauge section and eight Lassen and Hjort Lime Soda plants in the metre gauge section.

Bikaner has nine Lime Soda plants, Jodhpur has six, while the Southern Railway has one functioning at Rajamundry. Data regarding the cost of treatment as against reduced cost of maintenance, repairs and increased availability of locomotives are being collected. A sub-committee has been formed to study the performance of water softening plants and make suitable recommendations regarding efficient water conditioning.

CENTRAL STANDARDS OFFICE FOR RAILWAYS

104. General.—

The Central Standards Office for Railways continued to perform research, design and standardization functions in the Civil and Mechanical Engineering fields. Research in metallurgical, fuel, soil mechanics and housing problems of the railways also received attention. Brief details of the more important items of work undertaken by the different wings of this office during the year are summarized below.

CIVIL ENGINEERING WING

105. Research.—

Track Research—

The East Indian Railway desired to extend the running of W.P locomotives from Moghalsarai to Allahabad. As the down track between Mirzapur and Allahabad has 46 miles of old 88½ lbs. B.H. Rails, it was considered necessary to determine the maximum speed at which W. P. Engines could be permitted to run on this track. A site near Meja Road Railway Station on the Allahabad Mirzapur Section was selected for the test. A test train consisting of a W. P. locomotive and 4 bogie carriages was run at different speeds and the stresses developed at the different points of the rail were recorded by means of the Oscillograph Car and Electric resistance strain gauges. Altogether 60 test runs were made. For the purpose of comparison a few test runs were also made with HPS locomotive.

The test results indicated that the W.P. Engines could be allowed on the $88\frac{1}{2}$ lbs B.H. track with N+3+D sleepers spacing up to a maximum speed of 50 m.p.h. It was observed that:

(*a*) the stresses near the duplex joints were higher than elsewhere in the rail ;

(*b*) the stresses in the fillets were higher than at any other point of the rail section;

The investigation regarding the fatigue strength of rail joints welded by different processes is in progress under the Rolling Load Fatigue testing machine at the Shakurbasti Laboratory. About 32 welded joints representing samples of flash butt, Thermit, Thermalite and Secheron welding have been tested. The relative fatigue strength of the different types of welded joints and the effect of post-heatings on the flash butt welded joints are being ascertained. The tests are being continued but from the results so far obtained, it is found that thermite and thermalite welds are weaker as compared with flash butt and secheron welds.

Building Research—

Extensive research has been conducted in the recent years on the problem of black cotton soil. A large number of laboratory and field investigations on various types of soils and buildings constructed on such soils at different places have been carried out. The results of the investigation and the practical inferences are contained in the Report on Foundations in Shrinkable Soils which is expected to be published shortly.

The foundations of two major works namely the New Delhi Station Building and the Integral Coach Factory, Perambur, Madras have been designed after conducting detailed investigations regarding soil at site as also in the laboratory.

Laboratory and field investigations on the suitability of cinder ashes as aggregates for pre-cast concrete blocks have been made. Four experimental quarters in Delhi-Kishan Gunj and one experimental building at the Research Station at Shakurbasti have been constructed by Cinder concrete blocks and are under continuous observation. The results so far obtained are satisfactory. The cost of quarters built in cinder concrete blocks compared with the same type of quarters built in ordinary brick masonry showed that cinder concrete construction is economical where the cost of bricks at site exceeds Rs. 34 per thousand.

One experimental wall and two experimental 'A' type quarters in cellular brick construction have been erected and are under continuous observation. The suitability of this type of construction for general adoption will be determined after further observations.

Experiments with R. C. Door and Window frames are in progress.

Experiments with bamboo as concrete reinforcement are in hand.

Experiments with screened cinder ashes and *surkhi* as puzzolanic admixture to cement with the view to replacing partly the cement in ordinary concrete by puzzolanic admixture are in progress.

Tests have been carried out with smokeless *chullah* using coal as fuel. This type of *chullah* has been found to be economical.

Soil Mechanics Research—

Additional equipment obtained from various sources has been installed in the Laboratory at the Research Station at Shakurbasti. This laboratory is now fully equipped for all types of soil mechanics work.

Major work done during the year—

Over one thousand tests have been carried out in connection with various foundation and earth work problems, the most important of which are given below:

(*a*) Research on various types of shrinkable soils (black cotton soil) as referred to earlier.

(b) The investigations regarding the stability of the piers of the Godaveri Bridge at Rajamundri have been completed, and as a result the speed restriction on the Bridge has been relaxed.

(c) Numerous underground investigations for bridges and structures have been made, the allowable foundation pressures determined and a number of foundations designed.

(d) Notes on the design loads of piles and on earth pressures have been prepared and distributed among the Railways.

(e) Earth pressure cells have been designed by this office and manufactured in the Plant Depot at Moghalsarai and in Ajmer Workshop. The earth pressure cells are fitted with R. S. 4 Strain gauges to record stresses in soils under static and dynamic loads. The cells have been calibrated by means of specially designed equipment. The preliminary laboratory tests have proved satisfactory and the actual trials in track formations are in progress.

Courses in Soil Mechanics and Foundation Engineering—

Four courses, each of 10 days' duration, were held at the Research Station in Shakurbasti. Twenty-eight Engineers selected from the different Railways attended the courses.

106. Designs.—

Bridges—

The design for 350 ft. common deck rail-road span for Chakki Bridge on the Mukerian-Pathankot section of the Northern Railway was prepared. This span has been the longest one so far undertaken by this office.

Preliminary designs and general arrangement drawings of a few sheds were prepared for the new Integral Coach Building Factory at Perambur. This work was subsequently transferred to the Engineer-in-Chief at Perambur.

Preparation of 150 ft. B.G. M.L. standard span was started, but had to be postponed on account of important and urgent work relating to the design of steel frame structures for the New Delhi Centinary Station. Detailed working drawings of the foundation and steel work for the latter have been prepared.

Track—

Detailed design of 1 in 12 turn-out with curved switches has been prepared, as it is considered that such turnouts will give better riding. Trials with this type of turnout are being conducted on two Railways.

Alternative designs of 1 in 8½ moveable switch diamond were prepared and these are being tried on the Central and Western Railways.

Results of experiments in America and on the Continent indicate that longer fish plates improve the maintenance of the rail joint. A 24" long fish plate has been designed and will be tried on the Railways.

The design for crossing with over-riding type splice rail has been finalized and trials are being undertaken.

As an anti-sabotage measure, it has been suggested that gib should replace the outside cotters in cast iron sleepers. A design of 3-way gib has been prepared and circulated to Railways.

An alternative design of 1 in 16 turn-out on wooden sleepers has also been prepared and circulated to Railways.

New rail sections which are deeper and stronger, weight for weight as compared to the existing British Standard Sections have been finalized and the detailed drawings sent to the manufacturers for the preparation of the new rolls for rolling these sections.

Signalling and Interlocking—

Drawings of a number of mechanical and electrical components, *viz.*, signal burners, ladder for high signals, Drip loops and terminal and Fuse blocks for Electrical apparatus have been finalized and issued to the Railways.

A number of double wire signalling components, *e.g.*, Signal and Double Signal Mechanisms for lower quadrant signals, point Compensators, Coupling Device, have been standardized and standardization of many other components is in hand.

Drawings of the layout of Interlocking gear on B.G. switch diamond crossings have been prepared and such layouts are under trial on the Railways. Standardization of the interlocking layout for M.G. facing points has also been completed.

107. Standards Committees—

Bridges and Structures Standards Committee—

Among the more and important subjects dealt with by the Bridges and Structures Standards Committee may be mentioned the following:

(*a*) Special methods and technique for producing controlled concrete which is more economical than the ordinary concrete have been evolved and suitable clauses introduced in the Reinforced Concrete Code. The clauses specifying the period for the removal of shuttering of concrete floors, beams, etc., have been revised and a rational method based on the strength of concrete at the time of removal of shuttering has been incorporated. Provision has been also made in the same Code for permitting higher permissible stresses in vibrated concrete as such concrete normally gives higher strength.

(*b*) Limits of permissible stresses in compression flanges of plate girders and beams in ordinary structures have been increased so as to accord with the results of experiments and the practice now being followed in other countries.

(*c*) The permissible bearing pressures on reinforced concrete bed blocks have been increased and provision has been made in the Steel Bridge Code to ensure that end cross girders and connections in bridge girders are designed to facilitate jacking of the girders for purposes of maintenance.

(*d*) A number of clauses in the Arch Bridge Code have been revised. The clause specifying the loads on arches has been modified and the loading now stipulated is more rational.

(*e*) The clauses in the Welding Code relating to the permissible stresses in fillet welds have been simplified based on the results of tests conducted at Alipore Government Test House.

Track Standards Committee—

The Committee dealt with some of the proposed anti-sabotage devices and found them not suitable for adoption.

Designs of 1 in 12 turn-out with curved switches, 1 in 8½ moveable switch diamond crossing with over-riding splice rail and 1 in 16 turn-out on wooden sleepers have been scrutinized and approved. The Committee considered the practice of providing longitudinal run off frames at approaches of girder bridges and recommended that they should be eliminated, as they were not considered essential.

Signalling and Interlocking Standards Committee—

(*a*) The Committee examined a number of drawings prepared for standardization of mechanical and electrical signalling components and discussed certain aspects of the draft rules for the opening of Railways. The signal lenses manufactured by Glass and Ceramic Institute, Calcutta, were also inspected.

(*b*) The Committee considered the report of Mr. Vishvanathan on his observations of signalling practices in the U. K. and made their recommendations.

Building Standards Committee—

(*a*) The Committee considered the use of stabilized soil cement for construction of staff quarters. A number of quarters with stabilized soil cement have been constructed on the Railways. Their maintenance costs have been found to be high and the Committee recommended that this type of construction should not be extended.

(*b*) The composite type of floor and roof construction with pre-cast units and cast-*in-situ* concrete has been found to be more economical as compared to cast-*in-situ* construction, as the expensive shuttering is avoided in the former type. The Committee recommended that composite type of construction should be more extensively used.

(*c*) Layouts of multi-storied A and B type quarters have been finalized. The Committee also dealt with the use of cellular brick masonary and pre-cast cinder concrete blocks for the construction of single-storied buildings.

108. Miscellaneous.—An Indian Railway Standard Code of Practice for pre-cast concrete products and structural members has been prepared and issued. The Bridge Rules have been reprinted and correction slips issued to various other I. R. S. Codes.

ARCHITECTURAL WING

109. Architectural Works.—A new Architectural wing attached to this office started functioning in June 1951. A beginning has been made with a small staff attached to the Architect who advises the Railways on all important Architectural buildings. Some of the more important works dealt with during the year are referred to below:

Railway Research Centre at Lucknow—

Administrative offices along with the laboratories, etc., were designed for this scheme. The scheme provides accommodation for senior and junior research officers, various laboratories and workshops. meeting room and rest rooms for visiting officers. The building has been designed on modern lines. Working drawings and details for this scheme were also prepared.

Double-storied officers' flats to accommodate the administrative and executive officers attached to the Research Centre have also been designed.

Integral Coach Factory, Perambur—

Layout of the staff colony along with the designs for quarters type I, II, III and IV were prepared. The accommodation is more or less based on the recommendations made by the Committee of Experts for Building Works. Working drawings for these have also been prepared.

Designs for the officers' flats were also made. These are double-storied with four flats in a block, for use of administrative and executive officers.

Quarters at New Delhi for the Northern Railway—

To meet the immediate needs of the Northern Railway, four-roomed, three-roomed and two-roomed quarters of cheaper type and with austerity standards were designed for the railway colony near the Hardinge Bridge.

Officers' flats at Cufe Parade, Bombay—

Sketch designs for officers' flats in five-storied blocks were prepared for the use of the Western and Central Railway officers.

Standard Plans for officers' flats—

Typical plans for administrative and executive officers' flats were prepared. These were of two types, one for the use of Northern India and the other for the large towns like Bombay, Calcutta and Madras. The

standard of accommodation in these designs was based on the recommendations made by the Committee of Experts for Building Works and to suit railway requirements.

Metre Gauge Station Building at Lucknow—

Design for remodelling of the station building, construction work on which has already begun, was prepared. It is proposed to provide additional blocks on both sides of the existing buildings. In order to keep it in harmony with the style of the existing broad gauge station, this building has been treated with features of Indian style of architecture.

Railway Station at Jasidih—

Sketch designs for a new station building for Jasidih were prepared, providing modern amenities.

Station Building at Gandhidham—

Design for a station building at Gandhidham on the Kandla-Deesa Railway construction was prepared. The left hand wing of the building consists of the station offices, parcel office and offices for the Railway Mails. The upper class waiting rooms, refreshment rooms and retiring rooms are located on the upper floor. The centre portion includes a hall with upper class booking and luggage offices, etc. There is also a clock tower attached to this block. The right hand wing is meant for Third class passengers and consists of a large hall with booking and luggage offices and space for waiting and sleeping purposes. Refreshment room with kitchen, etc., and ample lavatory facilities for males and females are also provided. On the upper floor, retiring rooms for the lower class passengers have been provided which can be had on nominal rent. The building will be R. C. C. framework and earthquake resisting.

Station Building at Pandu—

It is proposed to rebuild the station building at Pandu to meet present-day requirements. This station building is on the river bank, and the advantage of the river view has been taken. The building has been designed accordingly to suit the river side and also the road side. It will be in R. C. C. framework and earthquake resisting.

Comments and advice regarding the remodelling of station buildings at Jubbulpore, Agra Cantt. and Muttra, were also given.

MECHANICAL ENGINEERING WING

110. Research—

Locomotive Research—

(a) During the year a set of electronic equipment was obtained from the U. S. A. for one of the B. G. Oscillograph cars.

(b) Oscillation trials were carried out on MAWD and YD metre gauge locomotives to determine their safe operational speeds. As a result of these trials, certain modifications to the pony and inter-buffer gear are being carried out at Ajmer shops to improve the riding qualities of the MAWD locomotives with a view to removing the existing speed restrictions. YD locomotives have been found to be suitable for safe operational speeds up to 40 m. p. h.

(c) Extensive trials, as per recommendations of the French Experts Committee were undertaken to determine suitable modifications either to the locomotives or to the track so that Pacific type (4-6-2) passenger locomotives could negotiate standard 1 in $8\frac{1}{2}$ and 1 in 12 turn-outs with minimum flange forces.

(d) Track tests were carried out on the Northern Railway to investigate into the causes of frequent rail fractures, suspected to be due to fatigue of rails. The tests indicated that the failures were due to local flaws in the rails. Further investigations are being continued.

(e) Trials were conducted on different brands of friction liners used for bogie and pony slides of locomotives with a view to ascertain the particular brand which had its co-efficient of friction as approximately 0·16, and whether the co-efficient of friction remained constant under prolonged service conditions.

(f) The Dynamometer Car Unit carried out exhaustive trials on WP, WG and AWC Locomotives to determining the optimum size of drifting valves and the possibility of reducing their present size without causing any adverse effect. The trials indicated that the reduction in size increased the vacuum in the cylinder, thus giving rise to suction of cinders and smoke box gases which not only destroyed the lubricating properties of the cylinder oil has also tended to score the cylinder walls. Besides, it was found that the expected economy in steam consumption was negligible.

Carriage and Wagon Research—

Load, deflection and stress determination tests on an IRS B. G. underframe fabricated out high tensile steel were undertaken with a view to determining its structural strength for air-conditioned coaches. The tests have shown that these underframes developed a negative cambre under simulated condition of loading due to heavy air-conditioning equipment, and, as such it was decided to use the mild steel underframes which have heavier sections.

Fuel Research—

The Fuel Test Car was engaged during the year in investigating the behaviour of different grades of non-coking coals under operating conditions on WP, CWD and HP class locomotives on express and goods train.

Secondary Air trials were undertaken on an XD locomotive fitted with an ACME economizer with a view to studying economy in fuel consumption. The trials indicated a saving of 2 to 3 per cent in the consumption of coal. These investigations are being continued.

111. Designs—

Loco. Design Wing—

(a) The Locomotive Design Wing completed its transfer to Chittaranjan at the beginning of the period under review. The transfer was effected to obtain larger accommodation required for the reorganized Loco. Design Wing and to enable this section to work in closer co-operation with the locomotive building effort at Chittaranjan.

The Section was reorganized into five special groups. One group consisting of qualified engineers was entrusted with stress calculation, and other four groups specialized in certain locomotive components. It is expected that the greater degree of specialization will result in an improvement both in the quality and quantity of out-turn, and preliminary reports are encouraging.

(b) In the course of the year, two special class officer apprentices undergoing their post-Jamalpur training spent periods of 6 to 9 weeks in the Locomotive Drawing Office for specialized locomotive training.

Arrangements have also been made to undertake the training of two Graduate Engineer Apprentices in stress calculation work and of seven apprentice mechanics in the work of the General Locomotive Drawing Office. The latter apprentices will be trained both in the Chittaranjan Locomotive Works and in the Loco. Wing of the Central Standards Office.

(c) Design and Drawing Work—

The more important design and drawing work undertaken by the Loco. Drawing Office during the year 1951-2 includes the following:

(i) Arrangement and details of clothing for WG boilers using 4 ft. 0 in. wide steel sheets available from indigenous sources.

(ii) Existing and proposed new and condemning tyre profiles for preliminary study by the combined meeting of the Track and Locomotive Standards Committee.

(iii) A review of the designs and modifications, where necessary, of front truck controls, to reduce flange forces and avoid fouling between wheels and main frames.

(iv) Alternative design of WG tender bogie using plate frames to facilitate manufacture at Chittaranjan.

(v) Strengthening of WP and WG tender underframes.

(vi) Layout of Broad Gauge BESA and IRS passenger and goods locomotives on 1 in $8\frac{1}{2}$ turn-outs and 10° curves by Vogl's method.

(vii) Typical designs of double-dished pattern piston heads for use in cylinders below 18 in. diameter.

(viii) Design of composite wheel centre for 3 ft.-7 in. diameter wheels with a view to standardization and inter-changeability on all broad gauge carrying axles with outboard bearings.

(ix) The redesign of spring rigging and auxiliary springs for WP and YP class locomotives.

(x) Experimental arrangement and details of revised front truck controls on MAWD locomotives to improve riding qualities.

(d) Particular specifications were prepared for the XF, YC, ZB, ZE and XA boilers.

(e) Designs and particular specifications were prepared for the following locomotices:

(i) WL class, 4-6-2 locomotive with bogie tender for medium passenger and branch line operation on the Broad Gauge.

(ii) WH/G class locomotive for mineral goods operation.

(iii) Co-Co type 5 ft.-6 in. gauge, all purpose electric locomotives.

(iv) Diesel locomotive for passenger and goods operation on the Kandla-Deesa section.

(v) Diesel locomotive for operation on the Matheran Light Railway, or for alternative use on the Darjeeling-Himalayan Railway, and with modification to the bogie as a shunting unit on the Kandla-Deesa section.

(f) The Loco. Design Wing undertook investigation work and Liaison on the examination of tentative drawings and designs submitted by Messrs. North British Locomotive Works, Messrs. Krauss-Maffei and Messrs. Telco for work on the production of locomotives and boilers.

(g) Part Drawings—

(i) There has been considerable progress in the production of part drawings both in the Central Standards Office at Chittaranjan and in the Railway Drawing Offices at Kanchrapara and Ajmer, where the part drawing scheme is under the technical control of the Loco. Design Wing of the Central Standards Office, Chittaranjan. The total number of part drawings produced at Kanchrapara and Ajmer during the period under review was 862 which, with the addition of 407 completed on 31 March 1951, brought the total to 1,269 on 31 March 1952. At Chittaranjan, the number of completed part drawings increased from 173 on 31 March 1951 to 635 on 31 March 1952 that is, a total of 1,324 part drawings on tracing cloth were prepared during this period.

(ii) The office also controls the production of these part number tracings and the mechanical tracing copies are distributed to the using railways. A total of 548 sets of mechanical tracings had been circulated by 31 March 1952.

(iii) In addition, 145 CSL and LSC drawings were prepared during the twelve months under review.

(h) Inspection—

In addition to the inspection of boilers at TELCO, the inspection of locomotive production at TELCO and Chittaranjan was brought under the control of the Loco. Design Wing during this period. The office accepted the following engines during the twelve months on behalf of the Railways:

(a) From Chittaranjan	14 WG locos.
(b) From TELCO	34 YB boilers, 3 YG locos.

(i) Library—

With the transfer of the Loco. Design Wing to Chittaranjan, it has been necessary to build up a reference library with books, magazines and specifications. The total number of books installed in the library by 31 March 1952 was 219.

Carriage and Wagon Design Wing—

Carriages—

(a) The carriage and wagon design wing continued to deal with matters arising from the basic design completed earlier for the 10 ft.-8 in. wide all-metal lightweight broad gauge shell of tubular construction.

(b) Three Draughtsmen were deputed to Messrs. Swiss Car and Elevator Manufacturing Corporation Ltd., Switzerland, for a period of six months for training on design of coaches of tubular lightweight welded construction.

(c) A layout for the Integral Coach Factory, Perambur, Madras, was prepared and finalized in consultation with the Chief Production Engineer of Messrs. Swiss Car and Elevator Manufacturing Corporation Ltd., who was deputed to India for this purpose. A tentative list of machine tools required for this factory was also prepared.

(d) Design for 9 ft.-0 in. wide all-metal metre gauge Passenger coaches and two 10 ft.-8 in. wide all-metal broad gauge prototype coaches on standard underframes ordered on Messrs. Jessop and Co. Ltd., and Braithwaite and Co. (I) Ltd., Calcutta respectively, were finalized. Also preliminary designs for 100 metre gauge all-metal shells submitted by Messrs. Gloucester Railway Carriage and Wagon Co. Ltd., England, were examined, modified where necessary, and approved.

(e) Layouts and specifications for one metre gauge Dynamometer Car and one broad gauge Track Recording car were prepared for guidance of manufacturers in Europe.

(f) A set of general arrangement drawings for all-metal metre gauge motor and parcel vans on standard bogie coaching underframe and on "WD" underframes, received from America were prepared for guidance of Railways.

(g) Investigations regarding the strengthening of standard broad gauge high tensile steel underframes to take heavy air-conditioning coach bodies and equipment were conducted.

Wagons—

The more important design and drawing work undertaken during the year includes the following:

(a) General arrangement drawings of oil tank barrels to suit old four-wheeled metre gauge wagon underframes;

(b) Construction drawings for oil tank barrels to suit "WD" metre gauge bogie wagon underframes received from America;

(c) Rationalization of wheels and axles of all gauges;

(d) Modifications to standard laminated bearing springs to incorporate the provision of 5/8 in. thick top plates;

(e) Modifications to broad gauge wagon bogies for transport of metre gauge carriage body shells on broad gauge sections;

(f) Preparation of particular specification for procurement of various types of rolling-stock against 1952-3 programme, both indigenous and foreign;

(g) Design of new drawgear for broad gauge to suit increased locomotive drawbar pull.

General—

Drawings for the Carriage and Wagon, Electrical, Stores and Specification, Standards Committees were prepared during the year.

112. Standards Committees—

Locomotive Standards Committee—

The Locomotive Standards Committee held its annual meeting in the Central Standards Office, Chittaranjan, in January 1952. Apart from the improvements to the components of existing IRS locomotives, the following items were considered :

(i) Draft Specification for WL, ZP, WT and WH/G locomotives;

(ii) Proposed standard NG diesel for use on either 2 ft. 6 in. or 2 ft. 0 in. gauge at distances remote from the collieries ;

(iii) Rolled steel wheel centres with separate types secured by riveting in supersession of either rolled steel wheels, or wheels with cast steel centres ;

(iv) Standardization of piston heads ;

(v) Discussion on the recommendations of the French Expert Committee.

Special Locomotive and Track Standards Committee—

A special joint meeting of the Chief Engineers and Chief Mechanical Engineers was held to consider the recommendations of the French Experts on the design and the running performance of the WP locos. and decision was taken to carry out a number of experiments before finally deciding about the modifications that should be made in this class of locomotives.

Carriage and Wagon Standards Committee—

The Carriage and Wagon Standards Committee held its 31st meeting at Bombay during February 1952 and dealt with an agenda of 62 items. The following were the more important subjects discussed at the meetings:

(i) Alternative arrangements for relief to passengers in the event of breakdown of air-conditioning equipment.

(ii) Adoption of a design for all-metal motor and parcel van on standard bogie coaching underframe (M. G.).

(iii) Standardization of a suitable window safety-catch with a positive locking device as a measure of safety to travelling public in the coaching stock.

(iv) Revision of designs for lavatory pans, commodes and flushing system.

(v) Adoption of fixed observation windows and barred partition to enable the Guard to keep a watch over the luggage compartment in running trains.

(vi) Finalization of the projected trials with roller bearing axle-boxes of goods stock.

(vii) Standardization of water-tight doors for covered wagons with improved locking device.

(viii) Complete stripping for examination, cleaning and painting of interior surface of the HAL built all-metal coaches.

(ix) Adoption of a suitable substitute for cotton cops waste for axle-box packing, in view of the probability of mills producing this waste going down rapidly.

(x) Redesigning of carriage and wagon components to ease maintenance difficulties.

(xi) Revision of the IRCA Conference Rules Part III.

(xii) Adequate vacuum test on running trains at key points with a view to obtaining maximum efficiency.

(xiii) Use of aluminium alloy sheets of suitable grades for panelling of coaching vehicles.

(xiv) Adoption of welded designs for carriage and wagons of all gauges by stages.

(xv) Projected trials with anti-waste graph device on carriage and wagon axle-boxes with a view to reducing the incidence of hot boxes.

(xvi) Standardization of layouts and all renewable parts and fittings of coaching stock.

Indian Railway Fuel Committee—

Important subjects bearing on grading of coals, controlling the quality of supplies, use of slack coals as loco. fuel and possibilities of washing coal, were discussed and recommendations made with a view to achieving greater fuel economy. Besides, problems concerning coal distribution, coal reserves on Railways, fuel statistics and training of staff were also discussed.

GENERAL

113. Indian Railway Standard Specifications.—The normal work of keeping Indian Railway Standard Specifications up-to-date continued throughout the year. No new Indian Railway Standard Specification was issued, but sixteen Indian Railway Standard Specifications were revised and reissued. In addition, twenty-one new Indian Standards Institution Specifications were adopted for use on Railways and three War Emergency Revision slips to Indian Railway Standard Specification were withdrawn.

114. Standards Committees—

(*a*) The Standing Committee on Standards and Specifications met during the year. A resume of the main items dealt with by the meeting is given below:

(i) The revisions carried out during the year to Indian Railway Standards Specifications was considered and approved.

(ii) Indian Standards Institution Specifications adopted for Indian Railway purposes during the year were considered and approved.

(iii) The present policy being followed by the C. S. O. with regard to the application of I. S. and I. R. S. Specifications to Railways was also discussed.

(b) *Electrical Standards Committee.*—The Electrical Standards Committee met during the year. A resume of the main items dealt with by the meeting is given below:

(i) The incidence of pilferage of train lighting belting was considered and it was recommended that individual Railways should tighten up on this matter and also ensure that no belts are put on the trains unless they are branded.

(ii) A list of spare parts prepared by Chief Electrical Engineers for Electrical train lighting equipment and locomotive headlights and turbo generators was discussed with a view to their being manufactured in the Integral Coach-Factory at Perambur as per previous recommendations.

(iii) The teething troubles being experienced on the new air-conditioned coaches were discussed and a sub-committee was appointed to go into the details of the case.

115. Miscellaneous—

(a) *Central Chemical and Metallurgical Laboratory.*—Shortly after the transfer of the Loco. Design Wing to Chittaranjan, the Metallurgical and Chemical Research Section, also shifted to that station and has been housed in the same building as the Loco. Design Wing. Facilities of the Locomotive Works laboratory are available to it for carrying out investigations pertaining to railway metallurgical problems. In addition to carrying out its normal functions, this section has undertaken the chemical and metallurgical inspection of components manufactured in the Chittaranjan Locomotive Works and also has given advice on metallurgical problems to them.

A number of investigations were carried out during the course of the year on failures of locomotive and track components. Trials of indigenous fireclay refractory bricks for loco. arches have been completed on the East Indian Railway, while those of the Bengal Nagpur Railway are being continued. The objective of the trial is to find out whether Moderate Heat Duty Group 'A' firebricks will serve in locomotive arches just as well as high heat duty bricks, which are approximately 50 per cent more expensive than the former.

(b) *Library.*—During the year new books and catalogues have been added to the Central Standards Office Library, which now contains about 2,125 books and 800 catalogues. Out of these books about 300 books have been transferred to C. S. O., Chittaranjan Library. Technical journals and periodicals from 47 institutions and firms are being received for circulation and record purposes. Articles of interest are being indexed for future reference and guidance.

(c) *Membership of Institutions.*—The office is a member of the following institutions and regularly received their publications which are circulated and used for reference purposes:

1. Association of American Railroads (U. S. A.).
2. American Railway Engineering Association (U. S. A.).
3. American Society for Testing Materials (U. S. A.).
4. Railway Fuel and Travelling Engineers' Association (U. S. A.).
5. Master Boiler Makers' Association (U. S. A.).
6. International Association for Bridge and Structural Engineering (Switzerland).
7. British Non-Ferrous Metals Research Association.
8. British Cast Iron Research Association (U. K.).
9. Institute of Welding (U. K.).
10. British Welding Research Association (U. K.).
11. Indian Institute of Metals (Calcutta).
12. Indian Roads Congress (New Delhi).
13. Indian National Society for Soil Mechanics and Foundation (New Delhi).

The Central Standards Office represented the Ministry of Railways on the—

1. Central Boilers Board functioning under the Ministry of Works Production and Supply. The Deputy Chief Controller of Standardization (Mechanical), acted as the Technical Adviser to that Ministry on matters relating to the Central Boilers Act.
2. Coal Advisory Committee, Ministry of Works, Production and Supply.
3. Indian Science Congress Association.

CHAPTER VII

STAFF

116. Number of staff.—The total number of employees (permanent and temporary) on all Indian Railways and in the office of the Railway Board and other offices subordinate thereto, excluding staff employed on construction, at the end of 1951-2 was 929,448 as compared with 919,368 at the end of 1950-1. The total route mileage at the end of the year was 34,119.

117. Cost of staff.—The following statement shows the number and cost of all staff, Classes I, II, III and IV, permanent and temporary, open line and construction, employed on Class I Railways during the year 1950-1 and 1951-2. The labour employed by contractors is not included.

NUMBER AND COST OF STAFF ON CLASS I RAILWAYS DURING 1950-1 AND 1951-2

Railway	Year	Number of staff on 31 March — Open line — Classes I & II			Construction — Classes I & II			Staff on loan from the Indian Audit and Accounts Service	†Cost of staff during the year ending 31 March — Classes I & II			
		Classes I & II	Classes III & IV	Total	Classes I & II	Classes III & IV	Total		Classes I & II	Classes III & IV	Total	Total including staff on loan from the Indian Audit and Accounts Service
Assam	1951*	128	44,934	45,062	..	..	..	..	12,02,944	5,10,89,806	5,22,92,750	5,22,92,750
	1952	**117**	**46,319**	**46,436**	..	..	..	..	**12,79,790**	**5,88,06,739**	**6,00,86,529**	**6,00,86,529**
Bikaner State	1951	21	5,876	5,897	..	..	..	..	2,04,782	62,67,641	64,72,423	64,72,423
	1952	**18**	**5,936**	**5,954**	..	..	..	..	**2,28,820**	**66,54,472**	**68,83,292**	**68,83,292**
Bengal Nagpur	1951	243	109,602	109,845	..	..		..	31,15,634	13,26,57,338	13,57,72,972	13,57,72,972
	1952	**245**	**122,214**	**122,459**	..	..	..	..	**31,73,366**	**14,27,82,080**	**14,59,55,446**	**14,59,55,446**
Central	1951	356	168,155	168,511	..	..	..	1	55,70,965	19,46,69,398	20,02,40,363	20,02,77,313
	1952	**358**	**167,709**	**168,067**	..	..	..	**1**	**51,69,677**	**21,19,16,223**	**21,70,85,900**	**21,71,19,000**
East Indian	1951*	409	209,717	210,126	3	235	238	..	57,97,404	26,96,84,388	27,54,81,792	27,54,81,792
	1952	**408**	**209,439**	**209,847**	**4**	**208**	**212**	..	**55,96,039**	**27,99,23,513**	**28,55,19,552**	**28,55,19,552**
Eastern Punjab	1951	138	49,361	49,499	1	1,701	1,792	..	15,41,709	6,24,07,215	6,39,48,924	6,39,48,924
	1952	**135**	**48,856**	**48,991**	**6**	**3,281**	**3,287**	..	**14,76,758**	**6,66,04,246**	**6,80,81,004**	**6,80,81,004**
Jodhpur	1951	30	7 434	7,464	..	..	..	..	3,16,934	91,58,820	94,75,754	94,75,754
	1952	**28**	**7,778**	**7,806**	..	..	..	..	**3,26,989**	**1,00,20,903**	**1,03,47,892**	**1,03,47,892**
Oudh Tirhut	1951*	162	53,264	53,426	..	118	118	..	18,10,723	6,15,67,409	6,33,78,132	6,33,78,132
	1952	**169**	**54,769**	**54,938**	..	..	..	..	**20,36,068**	**6,72,02,492**	**6,92,38,560**	**6,92,38,560**
Southern	1951	360	138,975	139,335	1	71	72	1	47,68,213	16,76,07,617	17,23,75,830	17,24,10,171
	1952	**331**	**132,463**	**132,794**	..	**214**	**214**	**1**	**39,46,774**	**19,09,38,975**	**19,48,85,749**	**19,49,19,755**
Western	1951	317	111,676	111,993	..	1,203	1,203	1	37,36,320	14,03,49,218	14,40,85,538	14,41,17,538
	1952	**309**	**112,434**	**112,743**	..	**1,529**	**1,529**	..	**33,28,208**	**14,91,83,167**	**15,25,11,375**	**15,25,11,375**
Railway Board and other Railway Offices	1951	125	8,843	8,968	..	..	..	1	25,82,918	1,19,57,105	1,45,40,023	1,45,74,889
	1952	**136**	**9,902**	**10,038**	..	..	..	**2**	**24,29,018**	**1,52,86,473**	**1,77,15,491**	**1,77,92,446**
TOTAL	1951	2,289	907,837	910,126	5	3,418	3,423	4	3,06,48,546	1,10,74,15,955	1,13,80,64,501	1,13,82,02,659
	1952	**2,254**	**917,819**	**920,073**	**10**	**5,232**	**5,242**	**4**	**2,89,91,507**	**1,19,93,19,283**	**1,22,83,10,790**	**1,22,84,54,851**

*Represents revised figures for 1950-1 due to changes made by the railway administrations in the figures published last year.

†The figures of cost of all Railways represent pay, allowances, passages, provident fund contribution and gratuity and the value of grain shop concessions in the case of Indian Government Railways.

A comparison of the figures for 1951-2 with those for the previous year shows that the total number of staff employed on the open line of Class I Railways increased by 9,947 during the year, while the number of construction staff increased by 1,819.

The total cost of staff including that of staff on loan from the Indian Audit and Accounts Service increased by Rs. 9,02,52,193 during the year

as compared with the previous year. The increase in expenditure is due to the following reasons:

(1) The implementation of the recommendations of the Joint Advisory Committee and the Adjudicator's award continued during this year. The increase in expenditure on this account is roughly Rs. 2·50 crores.

(2) An *ad hoc* increase of Rs. 5 per mensem in the dearness allowance was sanctioned from June 1951 and this has amounted to an increase of about Rs. 4·75 crores in expenditure.

(3) The increased loss on grainshops consequent on an increase in the cost of imported foodgrains, is about Rs. 1 crore.

(4) The increase in normal expenditure due to annual increments and increase in the contribution to Provident Fund on the confirmation of staff is about Rs. 1 crore.

118. Direct recruitment to the Superior Railway Services.—Forty-four appointments were made to the Superior Railway Services by direct recruitment during the year. The details by departments are given below:

Department	*Number*
(1) Civil Engineering	1
(2) Signal Engineering	1
(3) Electrical Engineering	2
(4) Transportation (traffic) and commercial	8
(5) Transportation (Power) and Mechanical Engineering	16
(6) Accounts	8
(7) Others	8
TOTAL	44

119. Promotions to Superior Railway Services.—Nine promotions were made during the year from Class II and Class III Services. The promotions were made against existing vacancies.

120. Railway Service Commissions.—The Central Railway Service Commission continued to conduct recruitment of Class III staff to the Indian Railways till 4 November 1951 after which date two Regional Railway Service Commissions with headquarters at Bombay and Calcutta were set up as one Commission was unable to cope up with all the work. Recruitment for the Southern, Central and Western Railways was entrusted to the Bombay Commission and for the late Assam, East Indian, Bengal Nagpur, Oudh Tirhut, Eastern Punjab, Jodhpur and Bikaner Railways, the Railway Clearing Accounts Office and the Chittaranjan Locomotive Works, to the Calcutta Commission.

During the year the Commissions recruited 7,994 candidates.

121. Confirmation of temporary staff.—In accordance with the undertakings given to labour and the general policy of Government, Railway Administrations are continuing to review all temporary posts with a view to converting them into permanent posts where justified, and to confirming temporary staff to the extent this can be done in such posts, as well as in normal permanent vacancies. Orders have also issued permitting railways to convert into permanent up to 75 per cent of the posts created for implementing the Adjudicator's Award, and also to create necessary supernumerary posts in the initial grade of recruitment to confirm all temporary staff who were appointed prior to 15 September 1945.

The position of conversion of temporary posts into permanent and the confirmation of temporary staff as on 31 March 1952 was as follows:

Total number of temporary posts converted into permanent	123,635*
Total number of temporary staff confirmed	224,166*
Total number of temporary staff, excluding (i) staff under training and on probation, (ii) workshop staff with less than 3 years service, and (iii) casual labour, remaining unconfirmed	93,714
Number of temporary staff under training or on probation	23,822
Number of staff whose posts were not likely to be required permanently	51,557
Number of workshop staff with less than 3 years' service	14,471

* These figures are cumulative from 1 June 1948.

122. Disposal of surplus staff.—In paragraph 122 of the last Report, it was stated that during 1950-1 about 11,500 surplus staff were absorbed in alternative vacancies and only about 500 were retrenched.

During 1951-2 the position further improved. About 3,000 men were absorbed in alternative vacancies and about 250 men only were retrenched. The majority of those who were retrenched, as during the previous year either refused alternative employment or had very short service on the Railways.

123. Absorption of Indian States Railways staff.—Consequent on the taking over by the Central Government in 1950 of the management and ownership of the railways belonging to the Part B States as a result of the Federal Financial Integration, about 286 gazetted officers and 67,632 non-gazetted staff of these railways were absorbed in the Indian Government Railway Services on the basis of the equation of their posts in accordance with the principles laid down by Government. The prescribed scales of pay for them were also notified. The seniority of the officers equated to Class I Service, *vis-a-vis* officers of the Indian Government Railways with whom the *ex*-States' Railways have been regrouped, was also determined tentatively except in the case of the *ex*-Saurashtra Railway. The seniority of the officers absorbed in Class II service is under consideration.

124. Regrouping—staff matters.—Consequent on integration of the *ex*-States' Railways and the formation of the three Zonal Railways, *viz.*, Southern, Central and Western, the question of as to how the seniority of non-gazetted staff of the comprising units should be determined for the purpose of promotion and confirmation was engaging the attention of the Railway Board and it was decided to appoint three committees, one for each Railway, to examine and report on the most equitable method of regulating the seniority of Class III and Class IV staff. Each Committee is presided over by a senior retired officer of the Government and has as its members three railway officers in the senior scale drawn from all, or, where this is not possible, from the major integrating units. The terms of reference of each of these Committees are as follows:

(1) To examine the question of the most equitable method of regulating the seniority of Class III and Class IV staff and make recommendations regarding:

(*a*) the grades and categories of Class III staff whose seniority and promotion will be dealt with:

(i) on a district or divisional basis;

(ii) on a regional basis where there are regions;

(iii) on a railway basis;

(*b*) the principles on which the seniority in each category and grade of staff should be determined;

(c) the avenues of promotion to posts included in items (ii) and (iii) of (a) above; and

(d) the actual preparation of the seniority lists on the basis determined above.

To assist the Seniority Committees, Labour Advisory Committees have been set up for each of the regrouped railways consisting of representatives of recognized Unions on the constituent railways. The Seniority Committees have been instructed to consult, at all stages, the Labour Advisory Committees and endeavour to reach agreed conclusions regarding the principles to be adopted for determining the seniority of the staff of integrated Railways as well as the grade and categories of Class III staff whose seniority and promotions have to be dealt with on a district or regional basis as the case may be. The work of the Seniority Committees is still in progress.

In the case of *ex*-States' Railways, orders were originally issued that in view of the impending regrouping, confirmation should be postponed till the cadres are reorganized on the regrouped railways. Subsequently, after the regrouping of the various Railways has been completed, Railways have been permitted to proceed with confirmation of the non-gazetted staff of the *ex*-States' Railways in posts which were available for this purpose up to the date of their integration provided such posts were expected to be retained in the reorganized set up of the regrouped railways. This will not, however, predetermine the relative seniority of such staff on the regrouped system as a whole.

125. Railways and labour.—The relations between the Railway Board and the labour continued to be generally cordial during the year.

All-India Railwaymen's Federation.—The All-India Railwaymen's Federation held its General Council meeting at Bombay on 24 and 25 April 1951, at which they directed their affiliated unions to take a strike ballot on the following basic demands for Railway workers in India :

(i) Payment of dearness allowance in accordance with the recommendations of the Central Pay Commission ;

(ii) setting up of a standing machinery for settlement of all outstanding issues between the Federation and the Railway Board and between affiliated Unions and respective local Railways at various levels.

At that meeting the General Council of the Federation also passed a number of resolutions relating to other matters. The points raised in the various resolutions were examined by the Railway Board and the All-India Railwaymen's Federation was advised of the results of the examination.

A meeting between the members of the working committee of the All-India Railwaymen's Federation and the Minister for Railways, was held on 4 June 1951. Some of the demands discussed at this meeting related to the expansion of the activities of the grainshops on Railways and certain other points covered by the recommendations of the Joint Advisory Committee for Railways.

The All-India Railwaymen's Federation held its next meeting of the General Council at Kharagpur on 6 July 1951 and passed a resolution stating that the verdict of the strike ballot taken by the Unions affiliated to the Federation should be implemented by serving a notice of strike to begin from 6 a.m. on 27 August 1951 and also appointing a Committee of action to implement their decisions from time to time.

With a view to protecting the general community from the dangers inherent in the ill-advised step which the Federation had threatened it with, the Essential Services (Prevention of strikes) Ordinance, 1951, was issued by the Government on 11 July 1951, enabling them to declare strikes on Railways and in certain other essential services illegal. The Minister for Transport and Railways introduced the Essential Services (Prevention of Strikes) Bill, 1951, in the Parliament on 7 August 1951, in order to place on the Statute Book an

Act in terms of the Ordinance referred to above, but as a result of further negotiations and the improvement in the general situation in the country, the Bill was not further pursued by Government.

The All-India Railwaymen's Federation held a meeting of their Committee of Action in Bombay on 10 August 1951, and resolved that the decision to serve notice of strike in terms of the resolution passed at Kharagpur be kept in abeyance and the whole situation be reviewed after a period of two months.

A meeting between the Railway Board and the All-India Railwaymen's Federation was held on 27 to 29 September 1951, at which eighteen subjects including the question relating to liberalization of pass privileges and weightage for service to *ex*-States' Railway staff were discussed.

A meeting between the Minister for Railways and the All-India Railwaymen's Federation was held on 10 November 1951, at which agreement was reached on the setting up of a permanent negotiating machinery for dealing with disputes between railway labour and the administration, the details of which are set out in a subsequent paragraph.

In respect of disciplinary procedure, it was agreed that, both at the initial inquiry and at the time the officer to whom an appeal lies disposes of the appeal, the employee concerned would be permitted to represent his case personally assisted by a trade union official, if he so chooses. It was further agreed that, in respect of Class III staff, the General Manager would have revisionary powers in respect of dismissals and discharges on application by the employee concerned and that before disposing of the case, he would, if the employee so desired, refer the matter to the Railway Rates Tribunal. At the meeting held on 10 November 1951, the All-India Railwaymen's Federation raised the questions relating to weightage for the pre-1931 staff and also the question of industrial workers on railways being permitted to assist candidates in the General Elections held in 1952. They were informed that Government had under consideration the setting up of suitable machinery for investigating whether a portion of the dearness allowance being given to staff should be merged in the basic pay and that if so, what other adjustments were necessary.

Indian National Railway Workers' Federation.—In response to a request made by the Working President of the Indian National Railway Workers' Federation, the Minister for Railways met certain members of the Working Committee of that Federation on 18 and 19 April 1951. The Indian National Railway Workers' Federation raised the question of increasing the dearness allowance given to railway workers. It was explained by the Minister that, although the recommendations of the Central Pay Commission had in general been accepted by Government they had found it in practice, impossible to implement the recommendations in regard to the dearness allowance on account of the financial position of the Central and States' Governments. It was also agreed that matters which had been dealt with by the Joint Advisory Committee could not be re-opened for discussion but if, however, the Federation felt in any particular instance that there was serious injustice it was open to them to make a representation separately to Government.

The Indian National Railway Workers' Federation passed a number of resolutions at the 3rd Annual Convention held at Jodhpur on 14 and 15 August 1951. The points raised in the resolutions were examined by the Railway Board and the result of the examination was communicated to the Indian National Railway Workers' Federation.

A deputation from the Indian National Railway Workers' Federation met the Minister for Railways and the Railway Board on 1 December 1951 at which some of the questions discussed related to the dealings of the Ministry of Railways with the Indian National Railway Workers' Federation and the All-India Railwaymen's Federation, setting up of a machinery for redressing the grievances of railway employees, etc.

The first quarterly meeting between the Indian National Railway Workers' Federation and the Railway Board was held on 13 December 1951

at which the Federation raised a number of questions relating to service conditions of staff on Railways which were examined and the Federation was advised of the results of the examination.

126. **Permanent negotiating machinery to settle disputes between Railway Labour and Administration.**—With a view to maintaining contact with labour and resolving disputes and differences which may arise between them and the Administration, a permanent negotiating machinery for dealing with disputes between Railway Labour and the Administration was set up on each of the six Indian Government Railways, with effect from 1 January 1952. The machinery is envisaged in three tiers; one at the Railway level, the recognized Unions having access to district/divisional officers and subsequently to officers at the headquarters including the General Manager; at the next tier, matters not settled at railway level will be taken up by the respective Federations with the Railway Board; and at the third tier, in cases in which agreement is not reached between the Federation and the Railway Board and the matters are of sufficient importance, reference will be made to an *ad hoc* Tribunal composed of representatives of the Railway Administration and labour presided over by a neutral Chairman. It would be open to Government to accept, reject or modify the decision of the Tribunal, if it considered it necessary to do so in exercise of its powers as Government as separate from its position as an employer and where the matters in dispute affect the workers under Ministries other than Railways those Ministries will be consulted whether they would like the dispute being referred to the Railway Tribunal or an *ad hoc* Commission. On the matters which have been settled by agreement or in which Government may accept the decision of the Tribunal it will not be open for the Federation to raise the same issues for a period of two years except that in cases where Government have modified or rejected the decision of the Tribunal, those cases may be raised by the Federation at the end of one year.

As provided in the permanent negotiating machinery, meetings were held between recognized unions and the Railway Administrations at both the levels on the various Railways. At the second tier of the machinery, discussions took place between the Railway Board and the Indian National Railway Workers' Federation on 31 December 1951 but there has not been any occasion for reference to an *ad hoc* Railway Tribunal during the year.

127. **Dearness Allowance.**—During the year, Government sanctioned with effect from 1 June 1951, an *ad hoc* increase of Rs. 5 per month in the rates of dearness allowance to Railway servants drawing pay up to Rs. 250 per month and who are on the full cash dearness allowance. Railway servants drawing pay from Rs. 251 to Rs. 300 per month were also given the benefit of the increase so that their dearness allowance may not be less than that of staff drawing pay up to Rs. 250 per month. The following rates of dearness allowance are accordingly in force on Railway with effect from 1 June 1951:

A. *Non-gazetted Railway Servants and married gazetted Railway servants*

Pay	Dearness Allowance
Up to Rs. 50	Rs. 40 *per mensem.*
Rs. 51- 100	Rs. 50 „ „
Rs. 101- 150	Rs. 55 „ „
Rs. 151- 200	Rs. 60 „ „
Rs. 201- 250	Rs. 65 „ „
Rs. 251- 300	Rs. 65 „ „
Rs. 301- 500	Rs. 70 „ „
Rs. 501- 750	Rs. 85 „ „
Rs. 751-1,000	Rs. 100 „ „
Rs. 1,001-2,000	10 per cent of pay subject to a maximum of Rs. 150 *per mensem.*
Rs. 2,001-2,150	The amount by which the pay falls short of Rs. 2,150.

B. *Unmarried gazetted Railway servants*

Up to Rs. 1,000	10 per cent of pay subject to a minimum of Rs. 40 and a maximum of Rs. 75 *per mensem*.
Rs. 1,001-1,075	The amount by which the pay falls short of 1,075.

The rates of dearness allowance for the railway servants who have opted for the grainshop concession remained unaltered. These are reproduced below:

17½ per cent of pay *plus* Rs. 5 *per mensem* subject to the following minima:

X Zone		A Zone		B Zone		C Zone	
Pay below Rs. 40	Pay Rs. 40 and above	Pay below Rs. 40	Pay Rs. 40 and above	Pay below Rs. 40	Pay Rs. 40 and above	Pay below Rs. 40	Pay Rs. 40 and above
24	25	22	24	19	21	17	19

X Zone—Kanpur, Bombay and Calcutta.

A Zone—Towns with a population of 2 lakhs 50 thousand and above excluding Kanpur, Bombay and Calcutta.

B Zone—Towns with a population of 50,000 or more but less than 250,000.

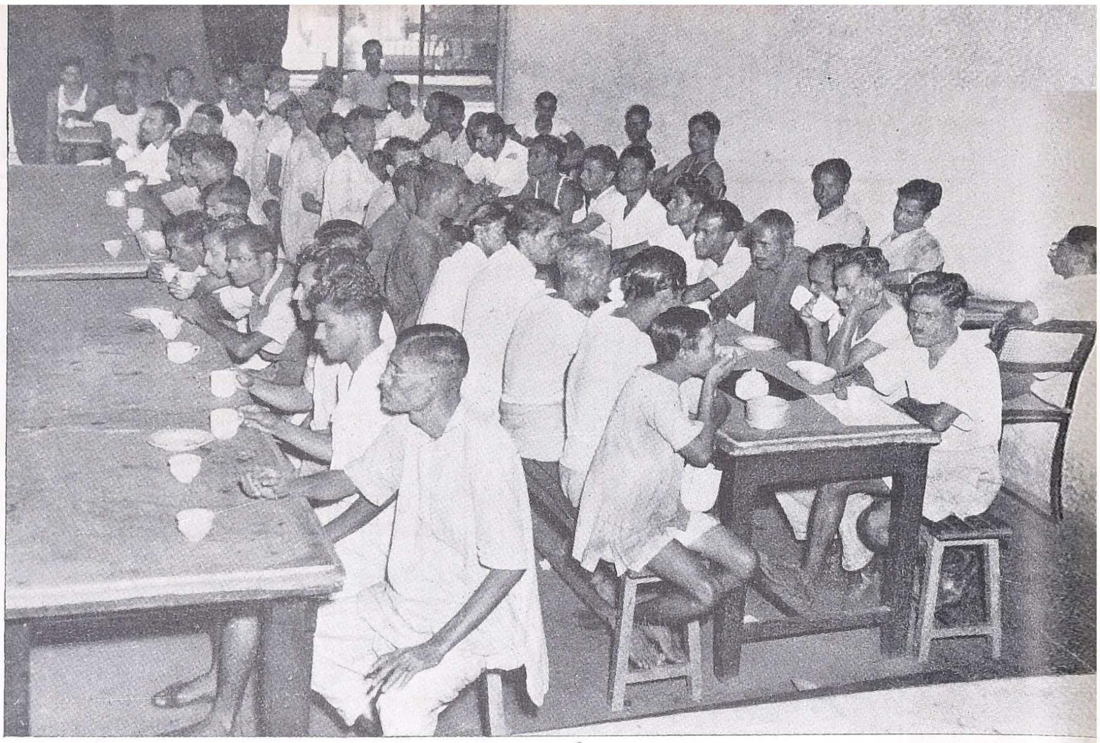
C Zone—All other localities.

128. **Grainshops.**—It was stated in the last year's report that owing to shortage of foodgrains in the country, Government decided in January 1951 to reduce, temporarily, the overall cereal ration to 9 ozs. per day (*plus* the extra 4 ozs. in the case of heavy manual workers) in all States in order to build up stocks and that this cut was restored in the case of heavy manual workers with effect from the 19 February 1951. Consequent upon improvement in the stock position Government decided in June 1951 that subject to availability of stocks with each State, the 9 ozs. basic ration might be raised to 12 ozs. for the non-heavy manual workers and for families without increasing the rice content of the ration, the rice position continued to be difficult. The scale of issue of ration to railway employees through railway grainshops was regulated accordingly.

The statistics given below indicates the principal activities of the Grainshop Organization during 1951-2 as compared with the previous year:

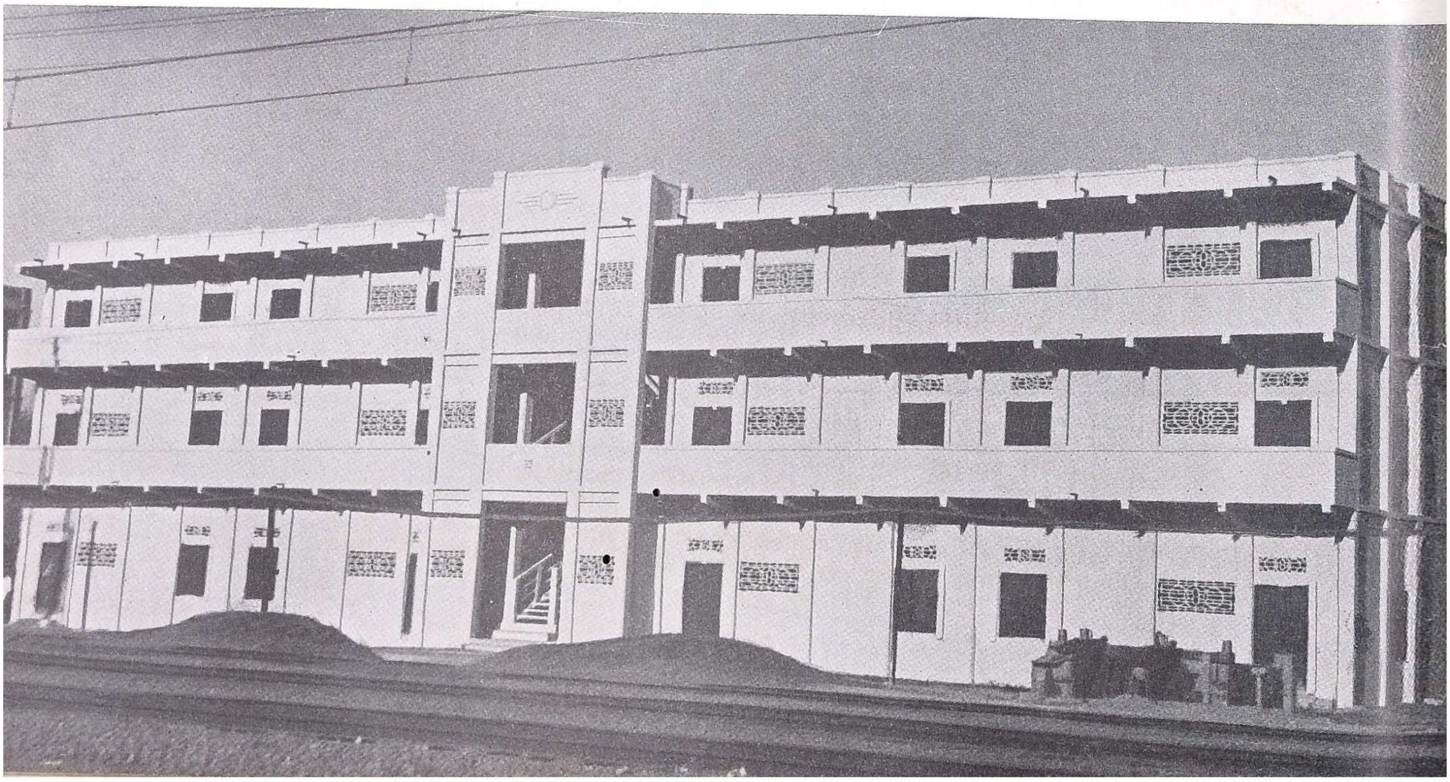
—	March 1951	March 1952	Remarks.
(1) Number of shops functioning			
Static	294	301	Increase due to inclusion of figures for grainshops on railways taken over from Part 'B' States as a result of Federal Financial Integration.
Mobile	64	82	
TOTAL	358	383	
(2) No. of staff served at the shops.			
(*a*) At concessional rates	240,000	229,000	Decrease due to (i) staff becoming ineligible for the concession on account of increase in their pay making it Rs. 250 or above; (ii) Retirement, resignations, discharge etc. of the staff, the new entrants taken in the vacancies thus created being ineligible for the concession; and (iii) some employees opting out in favour of entire dearness allowance in cash consequent in enhancement in the rates of cash dearness allowance with effect from 1 June 1952.
(*b*) At controlled rates	283,000	308,000	Increase due to the inclusion of the figures of the *ex*-States' Railways as well as of the staff opting out of the grainshop concession, or new entrants to Railway service, availing of the facility of drawing cereal rations from grainshops at controlled rates.
TOTAL	523,000	537,000	The increase in the total number of staff served by the Railway grainshops is due to the inclusion of the figures in respect of the *ex*-States' Railways as well as the increase in the number of staff registered at the Railway grainshops for supply at controlled rates.

EAST INDIAN RAILWAY—LILLOOAH WORKSHOP CANTEEN.



SOUTHERN RAILWAY—WORKERS STANDING IN QUEUE FOR TAKING COFFEE.

WESTERN RAILWAY—THREE STOREY FLATS FOR STAFF AT VILE-PARLE.



	March 1951	March 1952	Remarks.
(3) Principal articles sold			
	Mds.	Mds.	
(*a*) Cereals	6,271,000	4,037,000	Decrease due to reduction in the scale of cereal ration.
(*b*) Pulses	893,000	918,000	Increase due to half the reduction in cereal ration being compensated in the case of concessional card-holders in pulses.
(*c*) Cooking oil	384,000	379,000	Decrease due to reduction in the number of staff served at concessional rates since staff served at controlled rates are allowed to draw only cereals from the Railway grainshops.
	Rs.	Rs.	
(4) Total purchases	16,66,49,000	18,18,29,000	
Total sales	8,29,37,000	9,32,04,000	
Cost price of commodities sold	16,14,60,000	17,65,67,000	
Direct loss on sales	7,85,23,000	8,33,63,000	Increase due to increase in the cost price of commodities as well as the total number of staff served at grainshops.
Indirect loss (cost of staff, freight and other overheads).	1,63,35,000	1,70,75,000	Increase due to the increase in the number of railway grainshops and consequently the increase in the expenditure on staff.
(5) The average relief per concessional card-holder was as follows :			
Zone *X*	24 7	27 12	
Zone *A*	26 4	27 0	
Zone *B*	26 9	27 10	
Zone *C*	28 6	30 6	

NOTE.—The Zones have been defined in the paragraph on dearness allowance.

129. Canteens.—The number of canteens on railways which served light refreshments, and in some cases cooked meals, to workers increased from 66 during 1950-1 to 94 at the close of the year under review. The average number of employees served by these canteens also increased from 63,000 per day to 106,000 employees per day. Besides 12 new canteens opened during the year, the figures for the year include the number existing on the *ex*-States' Railways.

Canteens are opened at points where a considerable number of employees are concentrated, *viz.*, workshops, sheds, yards, large stations and running rooms. These are expected to be self supporting. Railway Administrations, however, provide the necessary accommodation, sanitary and electric installations, furniture and cooking utensils and also bear rent on sanitary and electric installations, service taxes and charges for electricity and water consumed. The canteens are generally run departmentally and in some cases on a co-operative basis. Railway Administrations have been instructed to take active steps to develop their canteen organization as a measure of labour welfare.

130. Co-operative stores.—The number of Consumers' Co-operative Stores, their membership and capital are shown in the following table:

No. of Railwaymen's Consumer Co-operative Stores (including Branches) on Indian Railways on 31 March 1952	78
No. of Railwaymen's Consumer Co-operative Stores organized and/or registered during 1951-2	6
Total No. of members standing on the books of Railwaymen's Consumer Co-operative Societies on 31 March 1952	39,630
Total capital of existing Railwaymen's Consumer Co-operative Societies on 31 March 1952	Rs. 7,45,383

The grant of concessions of subsidy and offer of shop accommodation on nominal rent, as mentioned in paragraph 129 of the Report for 1949-50 did not result in the development of a sufficient number of co-operative stores on Railways as had been expected by the Board. Consequently, in February 1952, the Railway Board decided that a special survey should be undertaken to collect data and information to enable them to take active steps for the establishment and enlargement of activities of co-operative societies on railways, for the distribution of consumer articles.

With this end in view, the Railway Board secured the services of Mr. J. K. Verma, an officer of the Madhya Pradesh Government, and appointed him as an Officer on Special Duty to organize and supervise the working of co-operative societies on Railways. Simultaneously all Part A, B and C State Governments were requested to render all possible assistance to Mr. Varma in his task.

The Officer on Special Duty (Co-operative Societies) commenced his work on the 9 February 1952 and visited a certain number of co-operative stores on Railways up to the end of March 1952.

131. Labour legislation.—No important legislation cancerning railway labour was enacted during the year.

132. Staff councils.—The question of the setting up of Staff Councils on Railways as provided under the Industrial Disputes Act on Railways was under further consideration during the period under review.

133. Provision of quarters for railway staff.—In accordance with the Railway Board's policy stated in paragraph 134 of the report for 1949-50, available resources were concentrated mainly on the construction of the lowest type of quarters, *viz.*, 'A' type for essential operating staff. 'B' type quarters were constructed only, if in the opinion of the General Managers, the provision of such quarters was essential. The ban on the construction of 'C' and 'D' type quarters was lifted but these were to be provided only where they were inescapable.

During the year, 5,886 'A' type, 503 'B' type, 23 'C' type and 46 'D' type quarters were constructed on Indian Railways, as shown in the statement below:

Railway	'A' type	'B' type	'C' type	'D' type	
Assam	1,041	112	..	..	
Bengal Nagpur	227	6	..	..	
Central	874	74	2	..	
East Indian	439	101	..	..	
Eastern Punjab	133	31	..	..	
Jodhpur	207	7	..	..	
Oudh Tirhut	900	..	..	..	
Southern*	915	138	20	46	*Excludes 204 two roomed and 163 three roomed tenements purchased from the Bombay Housing Board on 27 January 1952.
Western	1,150	34	..	..	
Total	5,886	503	23		=6,458+367 tenements=6,825.

134. Progress in implementation of the Adjudicator's Award.—The Adjudicator's Award had been implemented by the 31 March 1951 on the Indian Government Railways in so far as it related to the hours of work

and periodic rest. During 1951-2 final orders on the question of leave reserves have been issued. The work of amending Chapter VI-A of the Indian Railways Act 1890, with a view to giving statutory force to the Adjudicator's recommendations accepted by Government was taken in hand.

Consequent on the integration of the *ex*-Indian States' Railways into the regrouped systems, the application of the Adjudicator's recommendations to the *ex*-States Railways' sections of the Indian Railways has been progressing on the portions merged in the Southern, Central and Western Railways. The preliminary work like job analysis, etc., on the *ex*-Jodhpur Railway and the *ex*-Bikaner State Railway has been taken up.

The implementation of the Adjudicator's Award having been practically completed on the Railways, the absorption of Indian nationals returning from Burma on grounds of alien nationality has been permitted in normal vacancies also.

135. Progress in implementation of the Central Pay Commission's recommendations.—In the last year's report it was stated that by the end of March 1951 Government had issued orders on most of the recommendations made by the Joint Advisory Committee. During the year under review Government took action on the remaining issues also and orders were issued to the railways for their implementation.

Though the initial orders of Government on the various recommendations of the Joint Advisory Committee had been issued, the actual implementation of the orders by Railways, which involved the determination of the number of posts to be upgraded and the fitting in of the men in the new scales was still in progress. To expedite action, in this respect, powers were delegated to General Managers of Railways to sanction the upgrading themselves in cases where such grading was to be done on a percentage basis. In the other cases action was taken by Railways in consultation with the Railway Board where necessary. A good deal of progress had thus been made during the year in the implementation of the Government's orders on the Joint Advisory Committee's recommendations.

136. Activities of the medical department.—The examination of the general question of the policy to be adopted in future in regard to medical arrangements including measures for treatment of T. B. patients amongst Railway employees and their families was still in progress during the year.

The activities of the medical departments of railways, curative as well as prophylactic, continued during the year resulting in progressive improvement. On some of the railways extensions were made to certain hospitals. Additional dispensaries were constructed at some places and considerable medical equipment was purchased for the hospitals.

The medical departments continued to devote special attention to public health services. As a result of the adoption of such measures as vaccination and prophylactic inocculations, regular distribution of paludrine tablets to the staff and their families and anti-malarial measures, such as, spraying of quarters, etc., with D. D. T., removal of rank vegetation, laying oil films on mosquito breeding swamps, the incidence of diseases such as cholera. smallpox, plague and malaria was kept low during the year.

The work of tuberculine testing and B. C. G. vaccination by two trained teams on Railways was carried on very satisfactorily, and the response from the staff was encouraging. Persons suffering from pulmonary tuberculosis received treatment as outpatients at the railway hospitals and dispensaries. Supply of Streptomycin, Chloromycetin, Penicillin, Para-amino-salicylic, and Terramycin has been made on a liberal scale.

On almost all Railways, the various health and maternity service centres were well maintained. A statistical statement summarizing the activities of the medical department and showing the up-to-date equipment available on the Indian Railways for the year 1951-2 is appended to this report.

STATISTICS OF MEDICAL AND HEALTH SERVICES ON RAILWAYS FOR THE YEAR 1951-2

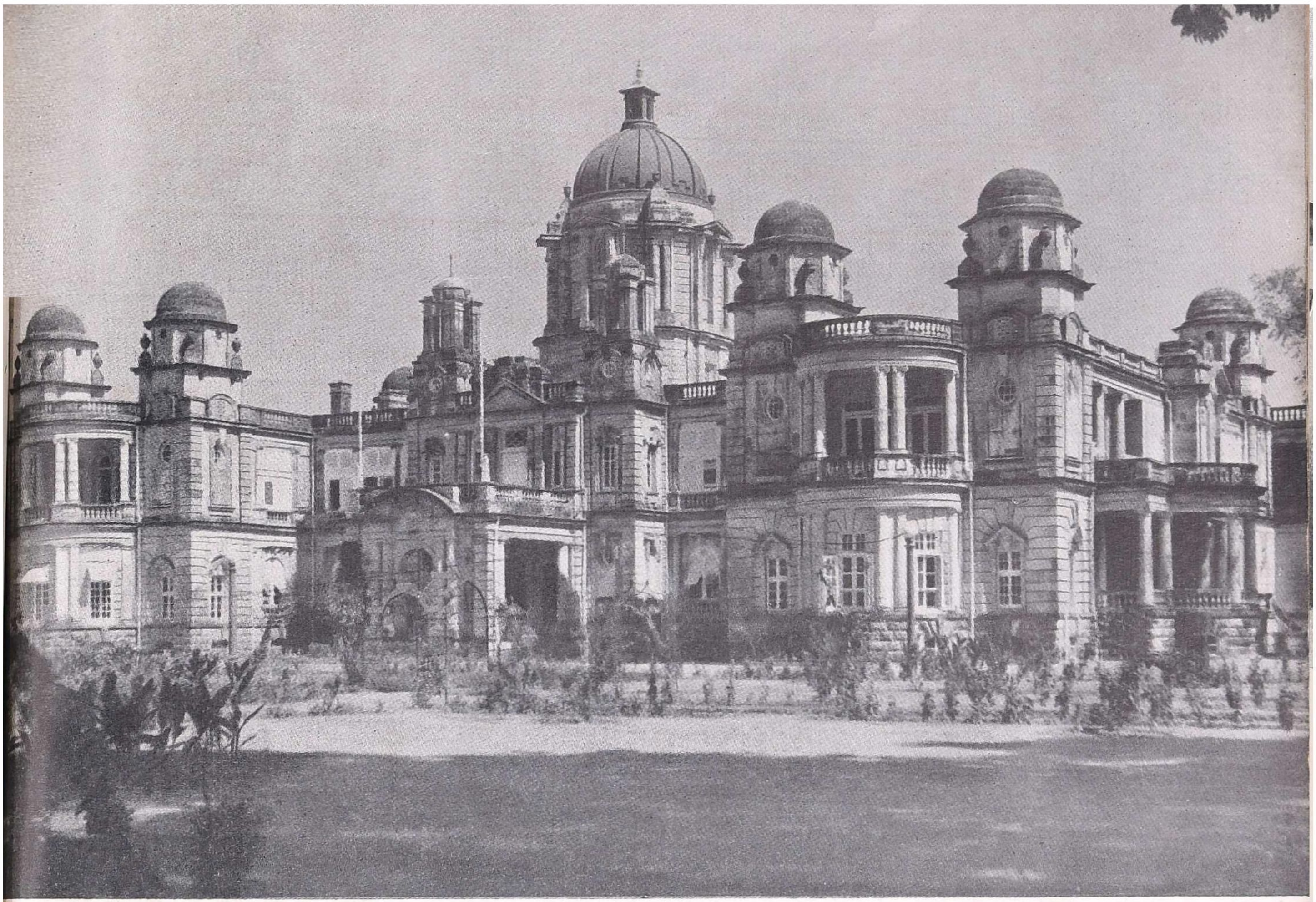
	Assam (1)	Bengal Nagpur (2)	Central (3)	East Indian (4)	Eastern Punjab (5)	Oudh Tirhut (6)	Southern (7)	Western (8)	Total
1. Nnumber of Railway Staff.	47,849	120,231	168,068	210,059	52,278	53,239	133,009	111,539	896,272
2. Cost of medical services. Rs.	12,58,000	15,71,000	23,58,358	34,08,000	8,63,949	7,49,016	17,02,000	18,84,924	1,37,95,247
3. Cost of medical services per head of staff per annum Rs.	26·2	13·07	14·03	15·31	16·53	14·07	12·8	16·90	15·4
4. Cost of Health Services. Rs.	18,37,000	24,95,000	27,68,317	28,39,000	12,82,930	7,12,000	9,52,000	12,08,280	1,40,94,527
5. Cost of Health services per head of staff per annum Rs.	38·3	20·75	16·47	12·75	24·54	13·37	7·15	10·83	15·7
6. Number of—									
(i) Hopitals	8	10	11	13	9	3	12	8	74
(ii) Dispensaries	43	53	50	73	14	18	59	65	375
(iii) Beds	204	244	463	674	202	203	426	249	2,665
7. Equipment :—									
(a) Diagnostic Apparatus—									
(i) X-ray	2	5	8	11	2	3	4	10	4
(ii) Electro-cardiogram	..	1	1	..	1	1	..	2	6
(b) Electro-Medical and Physio-Therapy—									
(i) Diathermy	1	1	2	10	1	1	2	1	19
(ii) Short-wave	..	..	5	..	1	1	..	3	10
(iii) Infra Red	3	5	3	10	2	1	1	11	36
(iv) Pentostat	..	..	2	2	1	..	1	1	7
(v) Ultraviolet	2	2	8	13	2	3	2	14	46
(c) Messaging & Rahibilli Apparatus.	..	..	..	..	..	..	..	..	..

137. Railway Staff College, Baroda.—The need for a centralized Staff College has been accepted for a long time. A proposal was made by the Acworth Committee almost 30 years ago. A Staff College was started at Dehra Dun in 1930, but as a result of the trade depression leading to reduction in Railway personnel and expenditure, the College was closed down early in 1932.

The need for expanding the training facilities in order to meet the increased requirement of personnel for handling a heavy movement of men and materials was again realized when the depression gradually receded and the World War II was in progress. Attention, however, at the time was centred on the war effort and it was not until the end of 1949 that the scheme for setting up the College took final shape. Even then the ways and means position of the Government was difficult and it was not until the 31 January 1952 that the Railway Staff College at Baroda was formally opened by the Minister for Railways.

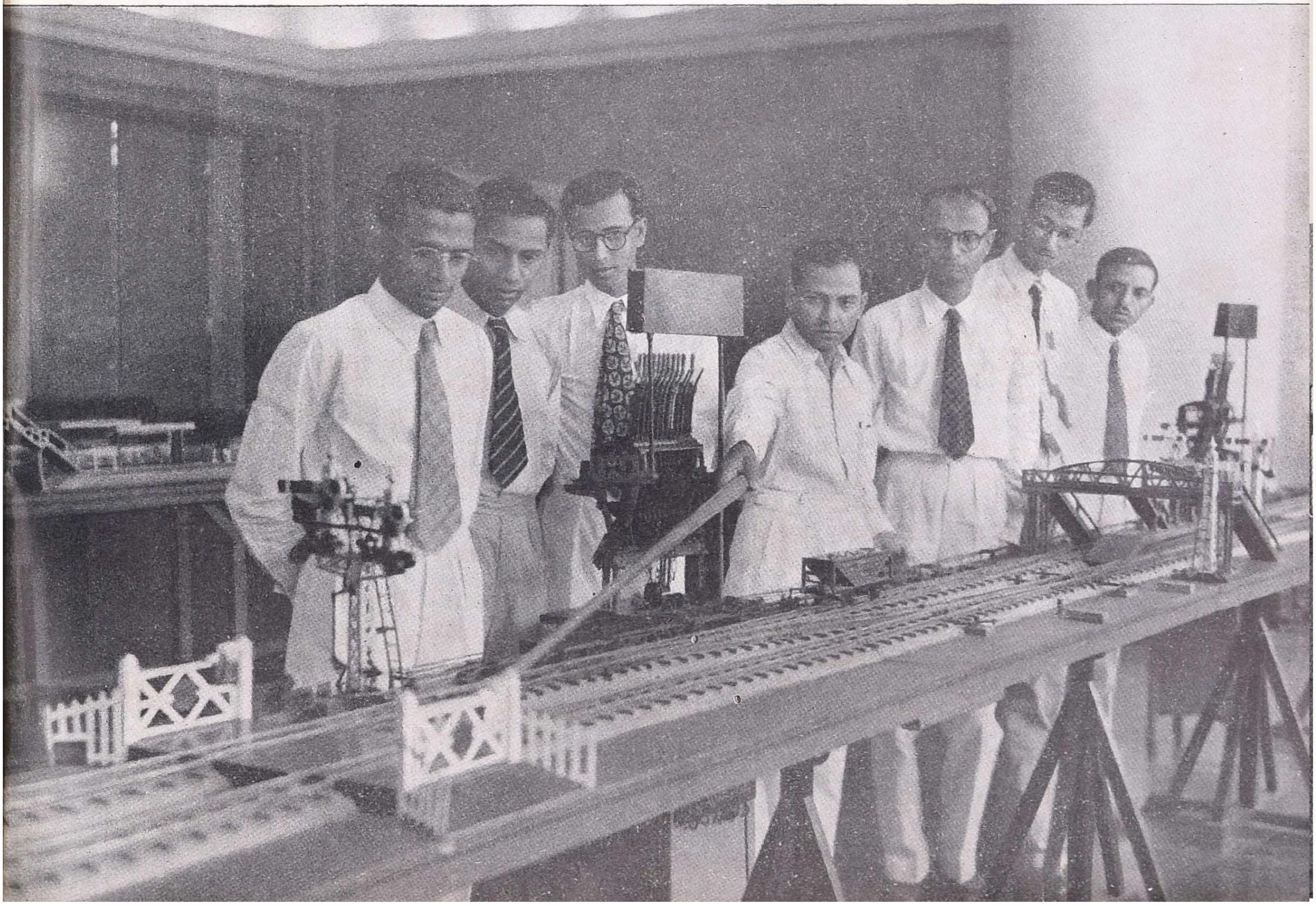
The College is housed in Lal Bagh Palace at Baroda. The entire cost of providing the colony with new buildings, furniture and equipment and renovating the Palace came to about Rs. 9·50 lakhs. The Bombay Government are being paid a rent of Rs. 3,000 *per mensem* for the lease of the Palace and precincts. The College has been opened with well-equipped hostel accommodation for 18 students for whom adequate recreational and sports facilities have been provided in the extensive grounds of the Palace. A scheme to expand the College further and to provide for 18 more students bringing the total to 36 students is under active consideration.

Instruction is at present given in subjects such as General Rules, Transportation, Commercial Accounts, Mechanical, Model Room practice, Statistics, Establishment and Railway Law. It is eventually proposed to centralize the training of officers and senior subordinates of the Signal Engineering and Block Departments also at this College.



BARODA COLLEGE—ONCE A PALACE—NOW A COLLEGE FOR RAILWAY OFFICERS; OPENED BY THE MINISTER FOR RAILWAYS ON 31 JANUARY 1952.

BARODA COLLEGE—OFFICERS LEARN TRAIN WORKING.



The first course consisting of 19 Probationary Officers of the Transportation (Traffic) and Commercial departments commenced on 1 February and terminated on the 31 March 1952.

138. Railway schools.—During the year under review, the question of transferring the Railway schools to the State Governments, who are responsible for provision of general educational facilities, was pursued, but as the majority of the State Governments expressed their inability to take over the schools owing to financial stringency, it has been decided that the Railways should continue to provide educational facilities in big Railway colonies to the extent State Governments or private educational organizations are not willing or able to provide them, until responsibility in this respect is assumed by the States.

The proposal to establish at various suitable educational centres subsidized hostels, in which the children of railway employees working at way-side stations could reside for educational purposes, is under consideration.

139. Training schools on Railways.—During the year, 29 Training Schools were functioning on Railways. Most of these are Traffic Schools, where recruits are trained in the duties of Station Masters, Signallers, Guards, Booking and Parcel Clerks, etc. Refresher and promotion courses for staff already in service are also provided in a large number of these schools. Some railway workshops have technical schools attached to them to give training to apprentices, who are intended for eventual appointment as skilled artisans and supervisors in railway workshops and running sheds, and also in some cases to loco running staff and permanent way supervisory staff. In one such school, at Jamalpur, Special Class Apprentices recruited through the Union Public Service Commission for eventual appointment as Class I Officers in the Mechanical Engineering and Transportation (Power) Department are also given training.

The question of training of staff has been receiving special attention from the Railway Administrations concerned, especially in view of the large number of staff of various integrating units which have come into a common system after regrouping and the additional men required for extending the benefits of the Adjudicator's award to the staff of the ex-States Railways. The rationalization of training arrangements for apprentices has also become important. Some Railways, who were getting the facility of theoretical training for their mechanical apprentices in State Government institutions, are also considering the feasibility of providing their own technical training schools, particularly in view of the provisions of the Constitution which made it necessary to discontinue previous agreements with State Governments for giving preference to persons coming from those States in the matter of recruitment for training, which preceded their absorption in Railway service.

140. Compulsory and Voluntary Savings Schemes.—Compulsory Savings Scheme applicable to staff drawing over Rs. 250 *per mensem* and the Savings Provident Fund (Railways) Scheme applicable to staff drawing Rs. 250 *per mensem* and below continued during the year under review. Approximately the number of staff contributing under these schemes and the amount collected during this year and also the gross amount collected during the currency of the schemes are given below:

Schemes	No. of staff	Amount collected during 1951-2	Gross amount collected during the currency of the scheme
Savings Provident Fund (Railways)	8,71,000	1,10,53,000	2,28,84,000
Compulsory Savings	15,000	18,18,000	38,99,000

CHAPTER VIII

AMENITIES FOR PASSENGERS

141. General.—Provision of amenities towards making rail travel more comfortable and safe continued to receive the close attention of Railway Administrations. These works are progressed with great care and adequate financial provision is made. They comprise provision of model carriages, fans and fittings, improvement of train lighting, opening of new stations and halts, provision of waiting rooms and halls, opening of new booking offices and out-agencies, electrification of stations, raising of platforms, catering arrangements, and better sanitation of station premises and passenger carriages. During the year 5,849 fans were fitted in Third class and 788 in Inter class coaches. Raising of platforms was carried out at about 60 stations during the year. Some of the important improvements on individual railways are enumerated below.

142. Improved lower class coaches.—Improved lower class coaches included in the coaching stock put into service during the year, were 231 Third class all-steel coaches. These coaches have the IRS underframes and bogies, but the bodies are of all-steel construction. One hundred bodies were constructed and furnished by the Hindustan Aircraft Limited, Bangalore. One of the Calcutta wagon manufacturing firms manufactured 131 bodies with interior furnishing being done in railway workshops. In addition, 188 Third class coaches built in railway workshops to the approved 1939 standard design were placed in service.

143. Booking offices and out-agencies.—Additional booking facilities for the greater convenience of the travelling public were provided at different stations as indicated below.

Assam Railway.—At Katihar, construction of a First class booking office was completed.

Bengal Nagpur Railway.—An additional booking office was provided at Jajpur Road station. Out-agencies and city booking agencies were opened at Jagdalpur, Kanker, Russellkonda, Srikakulam Town and Tatanagar for facility of the public.

Bikaner State Railway.—Temporary booking offices at Bikaner, Sri Kolayatji and Gogameri were opened at the time of fairs.

Central Railway.—For the convenience of the travelling public, an additional window for issuing season tickets was opened at Ghatkopar from 1 June 1951. Two additional windows were opened from 15 June 1951 at Victoria Terminus for the use of passengers desiring to make Third class reservations. An additional booking window was opened at Akola from 20 September 1951. A city booking office under the arches of the Yamuna bridge, was opened at Agra for the booking of Third class passengers only, in local and through booking from 16 July 1951. Similarly, to afford facilities to the mercantile community, a joint city booking office with the Western Railway, was opened at Mahim, from 1 January 1952.

Eastern Punjab Railway.—An out-agency at Pragpur was opened on 26 October 1951, for passenger, parcel and goods traffic. A city booking agency for booking outward passenger traffic only was opened at Lodhi Colony area, New Delhi on 15 July 1951. A sub-agency of the main agency at Patiala was opened on 15 January 1952 in the premises of Gurdwara Dukhniwaran Sahib for all classes of traffic.

Jodhpur Railway.—Temporary booking offices were opened in Mandor Garden during Virpuri and Nagpanchmi fairs at Mandor.

Oudh Tirhut Railway.—Temporary booking offices were opened at Tulsipur, Ayodhya Ghat and Bahraich stations during the year to cope with the additional traffic at the time of *melas*. Additional booking offices were also opened at Allahabad City, Izat Bridge and Jhusi during the Magh

mela and at Ballia during the Dadri *mela*. One new booking office for upper class passengers was opened at Basti during the year and the question of providing booking offices outside station platforms at Saharsa, Mansi, Bachhwara and Bhatni stations is receiving attention. A city booking office for booking passengers and parcels was opened from 15 July 1951 at Gorakhpur.

Southern Railway.—During the year three new booking offices and 15 out-agencies were opened. Separate booking offices for Third class and upper class passengers with adequate counters were provided at Coimbatore Junction.

Western Railway.—The construction of new booking offices at Dadar and modern enquiry and reservation offices at Churchgate were completed. Improvements to existing booking offices, such as, provision of an extra booking window, were carried out at Mahim, Agra Fort, Anand and Viramgam. A new city booking office was provided at Jaipur. Booking facilities were also provided at Sojat Road, Hissar, Indore and Mehsana.

144. **Waiting rooms and waiting halls.**—Besides improvements being made to the existing station accommodation new waiting rooms and waiting halls were constructed at a number of stations during the year.

Assam Railway.—Third and Inter class waiting rooms for ladies and Third class waiting hall at Banmankhi, a Second class waiting hall at Katihar, improvements to waiting room at Manipur Road, extension of Third class waiting hall at Haibargaon and gents and ladies waiting room and a new Third class passenger shed at Amingaon were provided during the year. Extension of Third class ladies waiting room at Katihar, provision of sanitary fittings in upper class waiting rooms at Karimganj and Badarpur and provision of waiting rooms at Kalkalighat, Dullabcherra and Baraigram were in progress.

Bengal Nagpur Railway.—Fourteen waiting rooms for upper and Inter class passengers were constructed and 15 more are in progress. Fifty-five waiting halls for Third class passengers were provided and another thirteen are in progress. Re-inforced concrete benches numbering 210, were provided at different stations and bathing places provided on platforms at Jharsuguda, Sambalpur, Simhachalam, Dusi, Itwari, Muri, Chandil, Bhojudih, Berhampur, Bhubaneswar, Nainpur and Chhindwara stations.

Bikaner State Railway.—A waiting hall at Banisar and a waiting room for Inter class passengers at Bikaner were constructed.

Central Railway.—Twenty-eight waiting rooms or halls for Inter class and 218 for Third class passengers were provided during the year.

East Indian Railway.—Upper class waiting rooms at Tarakeswar, Hathras Kilah, Singur, Anjhi and Gajroula were provided. Third class waiting halls for passengers were provided at several stations. Improvements were effected in the waiting rooms and waiting halls at many stations. Additional benches in waiting rooms and on the platforms were provided at twenty-four stations.

Eastern Punjab Railway.—By the end of the year 95 per cent of the stations had waiting rooms or halls for Third class passengers. 202 benches were provided in waiting halls and at platforms at various stations of Delhi division. Existing platforms at Panipat, Meerut City, Pathankot and Karnal were covered during the year.

Jodhpur Railway.—An upper class waiting room was provided at Merta City and the waiting hall was rebuilt to provide increased accommodation. 6 retiring rooms were built at Jodhpur station.

Oudh Tirhut Railway.—Twenty waiting rooms and halls for Third class passengers were provided on this railway during the year.

Southern Railway.—A waiting hall at Belgaum and a waiting room for merchants at Nandyal were provided. Improvements were carried out to

the waiting halls at Mandya, Kengeri, Ramanagaram and Bangalore City. In connection with handling of the festival traffic at Trichinopoly Town for Vaikunta Ekadasi, a cadjan shed was erected in the middle of December 1951 to serve as an additional waiting shed. Shower bath facility was provided in the bath rooms attached to the upper class waiting rooms at Tanjore, Peralam and Bezwada. Third class waiting halls were extended at Hindupur, Sattenapalle, Reddiguem and Nadikude. Improved ventilators were provided to the upper class waiting rooms at Tanjore. Fencing in the Third class waiting hall at Godavari was rearranged.

Western Railway.—A new waiting hall was provided at Karambele and the waiting hall at Dabhoi was extended, while construction of new waiting halls with modern facilities at Baroda, Surat, Kosamba, Maninagar, Bilimora, and Ujjain was in progress. New waiting halls with modern facilities were provided at Indore, Mehsana, Mandsaur, Sojat Road, Veraval, Dhola, Ningala, Khijadiya, Kunkavav City, Surat and Shri Mahabirji. Extension to upper class waiting rooms at Chirawa was completed. In addition to this, improvements to lavatories and bathing places were carried out at Gurgaon, Alwar, Bandikui, Phulera and Rewari. The work of providing tiled floorings and *dado* in the existing waiting rooms at Deesa, Sirohi Road, Unjha, Palanpur and Sidhpur were in progress.

145. Additional plaforms and sheds.—The work on improvements to, or extensions of, existing platforms, and provision of covering over the platforms was continued and good progress was made during the year.

Assam Railway.—The construction of three sheds on island platforms at Katihar which was taken in hand in 1950-1, was completed during the year. A covered passenger shed at Katakhal station was also completed, and a new Third class passenger shed was provided at Amingaon. The covering over the island platform at Barsoi was extended. Rail level platforms at Maligaon, Badarpur and Bihara were completed. A new platform measuring 800′ in length with proper shed was provided at Amingaon and raised platforms were provided at Manipur Road and Haibargaon. The work of construction of high level platforms at Badarpur, Karimganj, Silchar and Hojai was in progress. Platforms at Furkating and Siliguri Junction were surfaced.

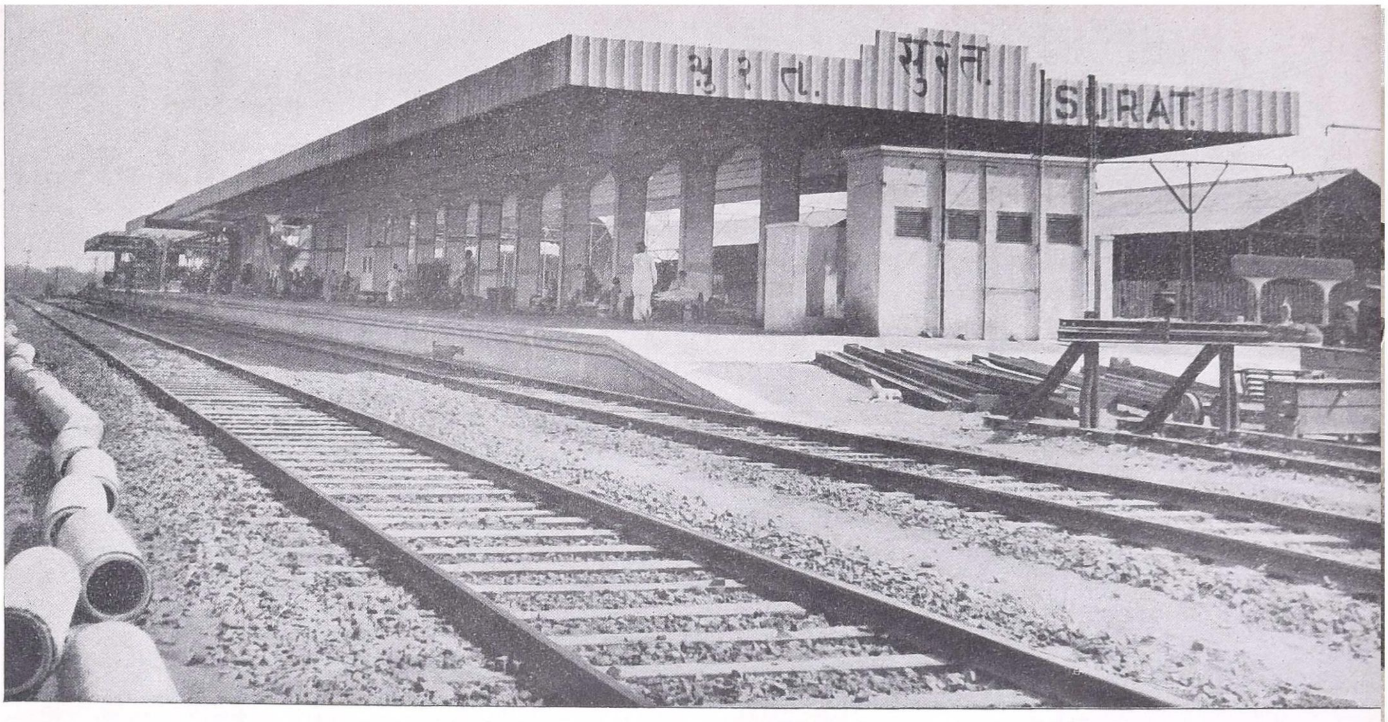
Bengal Nagpur Railway.—Covering over the passenger platforms was provided at Khargpur, Bilaspur, Puri and Waltair. Thirty-nine improvized types of passenger platform covers were installed at different stations during the year and the work on 25 others was in progress. Rail level platforms were raised to low level at Ghunghuti, Karkeli, Bisra, Garpos, Parvatipuram, Khariar Road, Gua, Raj-Kharsawan, Sonakhan, Kota Bommali, Jaithari, Sudamdih, Balugaon and Bhogpur stations.

Central Railway.—A reinforced cement concrete platform was provided at Basai station and surface of platforms at Begumpet was cement-asphalted. Covering was provided over passenger platforms at Balarum and the construction of a passenger shed at Sanichara was in progress.

East Indian Railway.—Sheds were provided over the passenger platforms at Bansabati, Chandernagore, Jamtara, Bihta, Duttapukur and Sonarpur and raised platforms were provided at Bansabati, Irki, Anjhi, Gajroula, Lhaksar, Murshidabad, Belmuri and Basuldanga. Platforms at Nalhati, Sainthia and Bongaon were cement concreted. Existing platforms were extended at Jehanabad, Taregna, Aligarh Junction, Rasulabad, Jalesar Road, Manauri, Malwan, Bindki Road, Janghai, Jaunpur, Malipur, Rae-Bareli, Shahganj, Tilhar, Rampur and Lhaksar and a low level platform was provided at Gulaothi.

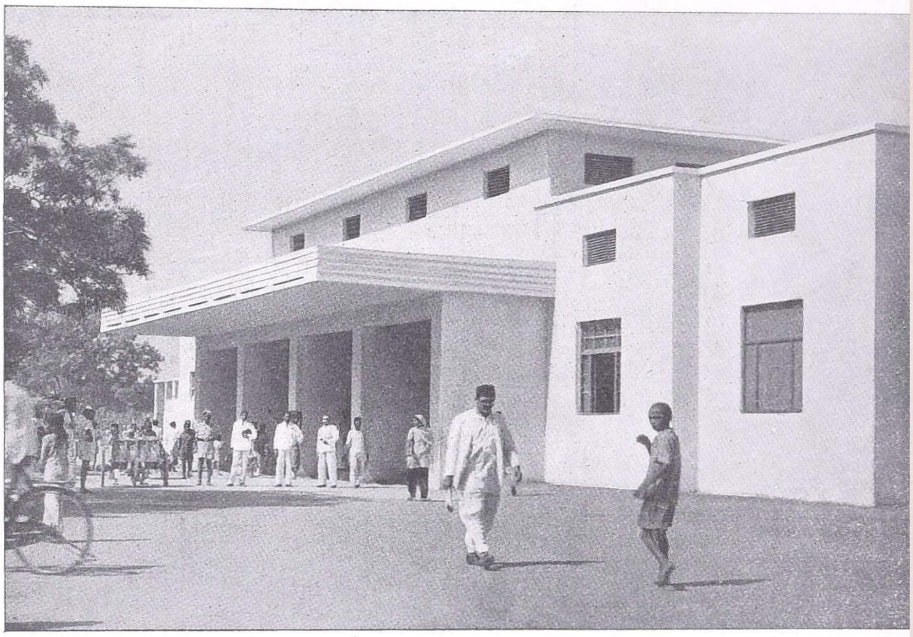
Eastern Punjab Railway.—Covered platforms were provided at Panipat, Meerut City, Pathankot and Karnal Stations and platform at Rupar was raised from rail level to low level.

Southern Railway.—The platforms at Tottiyapalayam was raised and platforms at Byadgi and Saunshi were raised and lengthened. Platforms at



WESTERN RAILWAY—SURAT—COVER OVER ISLAND PLATFORM.

WESTERN RAILWAY—OUTSIDE VIEW OF THE NEWLY BUILT THIRD CLASS WAITING HALL AT INDORE.



CENTRAL RAILWAY—INTERIOR OF THIRD CLASS COMPARTMENT OF THE NEW SUBURBAN MULTIPLE UNIT STOCK RAKE.

Hubli, Shoranur, Kadur, Bangalore City, Tenali and Pakala were paved and cement-concreted. Platform shelters were provided at Kadiri, Madanapalle Road, Venkatagiri, Bapatla, Nidubrolu, Chirala and Vetapalemu and Tirupathi East.

Western Railway.—On the broad gauge section the extension of passenger platforms at Anlkeshwar and Surat, and the widening of platform at Dadar were completed. The work of covering over the platform at Kosamba, Surat and Baroda was in progress. On the metre gauge section, covering over platforms was provided at Udaipur and Neemuch. Raising and extending of platforms were completed at Palsana, Chirawa, Fatehgarh-Shekhawati, Lachmangarh, Surajarh and Sanganer Town while work was in progress at other 16 stations. Masonry-raised platforms were constructed at Visavadar, Hadmatia, Than and Ningala.

146. Electrification of stations.—The work on the provision of electric lighting of passenger platforms, station buildings, waiting sheds, approach roads, circulating areas, recorded satisfactory progress during the year. In all 96 stations were electrified during the year on Indian Government Railways as detailed below:

Railway	*No. of stations*
Bengal Nagpur	13
Central	18
East Indian	12
Eastern Punjab	3
Jodhpur	2
Oudh Tirhut	13*
Southern	28
Western	7†

* Includes 7 stations reported " in progress ".
† Includes 6 stations reported " in progress ".

In addition, at a number of stations, already electrified, lighting was improved and ceiling fans were provided in Third class waiting halls, and, wherever possible, on covered portions of passenger platforms. Water coolers were provided at 24 stations on the Bengal Nagpur, Central, East Indian, Southern and Western Railways.

Temporary electrical arrangements were made for the Solar Eclipse fair at Kurukshetra on the Eastern Punjab Railway in the month of February 1952.

147. Catering arrangements.—A directive was issued to improve existing arrangements and maintain appropriate standards in the western style of catering in restaurants at stations and in the dining cars on trains in order to serve the needs of both internal and foreign tourists, on the lines of the recommendations of the Special Committee referred to in the last year's report.

The whole question of the award of catering and vending contracts was also reviewed. It was decided that contracts at large stations should be awarded to professional and experienced caterers of good standing and, at other stations, to local professional men including displaced caterers or vendors settled in the area. The existing contractors rendering satisfactory service were, however, permitted to continue. Much stress was laid on the necessity for viewing seriously all cases of unsatisfactory service and for an increase in the licence fee as the previous level of fees was very low in some areas. The service on the whole continued to be satisfactory.

In this connection it may be stated that a drive was instituted by Railway Administrations for improving kitchens of food vendors at important stations and to make sure that they have all wire gauze fittings so that they may be fly proof. The number of stations at which these improvements have been carried out during the year was 215.

148. Supply of drinking water.—During the year Railways continued to pay special attention to the adequacy of arrangements for supplying drinking water to passengers at all stations. The scheme for the provision of twenty watermen at important stations on all the principal routes experimented with during the previous summer was repeated with success during 1951-2. A number of Railways have installed water-coolers at important stations for the supply of electrically cooled water to passengers free of charge when served to them direct or when it is obtained by them from the tap specially provided. A nominal charge is, however, made when the electrically cooled water is served specially in tumblers.

149. Steps taken to alleviate overcrowding in trains.—Railway Administrations were fully alive to the persistence of overcrowding in trains which was due mainly to the existing paucity of coaching stock and accumulated arrears of replacement on account of excessive wear and tear during the war years and restricted coach-building capacity of railway workshops and indigenous industry.

Consistent, however, with these limitations, every possible step was taken to reduce overcrowding by increasing passenger accommodation on trains and introducing additional trains. During 1951-2, 750 additional coaches in terms of four-wheelers were built and placed in service. By 15 May 1952, when the time-tables were revised this year, passenger train services on Indian Railways expressed in terms of train miles per day had increased by about 4,163 on the Broad gauge and 5,447 on the Metre gauge over those operating on 1 April 1951.

As already referred to in paragraph entitled "Operating General", in Chapter III, three additional *Janata* Express Services were introduced during the year.

As indicated in the last year's Report, the facility of providing separate Third class bogies for long distance passengers was appreciated and availed of by the travelling public during the year under review as well.

CHAPTER IX

ACCIDENTS

150. Major accidents.—The details of major accidents which occurred during the year are given below:

On 11 May 1951, while 32 Down Passenger was being received on line No. 1 at Darbhanga station on the Narkatiaganj-Mokameh Ghat section of the Oudh Tirhut Railway, a yard Pilot, drawing ahead a load of 20 wagons on line No. 2, entered the cross-over road leading from line No. 2 to line No. 1 and side-collided with 32 Down Passenger. The engine and three vehicles next to it on 32 Down Passenger, the yard Pilot and one wagon next to it suffered damages. 11 persons were killed and 16 injured. The approximate cost of damage to engine, rolling-stock and permanent way was Rs. 47,756. The accident was caused by the wrong setting of the points of the cross-over road giving access to the shunting engine from line No. 2 to line No. 1 on which the train was being received.

On 11 May 1951, while 2 Up Calcutta-Bombay Mail was standing on the platform line at Bilaspur station on the Jharsaguda-Raipur section of the Bengal-Nagpur Railway, there was a sudden out-break of fire in a third class compartment of the coach second from the engine, just before the train was due to leave the station. The fire was extinguished within a few minutes. 9 persons were killed and 5 injured. The approximate cost of damage to rolling-stock was Rs. 1,500. The fire was caused by several rolls of 35 m.m. films packed in a card board box, carried by some passenger, having caught fire by contact with some burning substance.

On 26 August 1951, while running from Nagrakata station to Carron station on the Siliguri Junction-Alipur Duar section of the Assam Railway, 1 Up Link Express derailed, after passing the Down Outer signal of Nagrakata station, over a 3-ft. arched culvert where the bank had been scoured by flood-water caused by very heavy rainfall. The rear portion of the engine and tender sank into the scour hole and the two coaches next to it were badly smashed. The third coach was partially derailed. Ten persons were killed and 29 injured. The approximate cost of damage to the engine, rolling-stock and permanent way was Rs. 1,39,300. The accident was caused by the failure of the 3 ft. diameter arched culvert and the embankment, due to the flood-water scouring the bed while rushing through the culvert at high velocity.

On 17 October 1951, while 405 Down Churchgate, Virar Fast Local train was nearing Parel station on the Bombay, Baroda and Central India Railway, smoke was noticed in one of its carriages. Alarm chain was pulled by some passengers and the train came to a stop, past the station platform, with its rear portion under a road overbridge. Passengers jumped out of the train in panic and while crossing the adjacent Up Local line, some of them were knocked down by an Up Local train from the opposite direction at the same time. 8 persons were killed and 5 injured. The approximate cost of damage to the rolling-stock was Rs. 3,000. The smoke was caused by the flashing over of the traction motors due to their having been reversed.

151. Review of accident statistics.—The following statement analyses, under certain principal heads, the accidents which occurred during the last two years. A statement showing the character and extent of accidents in greater detail for each railway will be found in Appendix D of Volume II of this Report.

In comparing the accidents during 1951-2 with those in the previous year, allowance has to be made for changes in the basis of their enumeration under the revised instructions for the compilation of statistics of accidents. Under the revised rules, *inter alia,* monetary limit of accidents of a trivial nature not included in statistics, has been raised from Rs. 100 to Rs. 500 ;

serious damage to property wherever applicable has been defined as of the value of Rs. 2,000 in view of the present-day high costs ; duration of interruptions to traffic by floods and land-slips has been precisely laid down, as exceeding three hours in the case of passenger and mixed trains and six hours in the case of goods trains and interruptions to traffic owing to several breaches on the same block section, caused by floods occurring on the same day and from the same cause are now being treated as one accident. All collisions and derailments in marshalling, shunting or locomotive yards and sidings, etc., are also now accounted for uniformly by all the railways with the exception of those of a trivial nature but separately from similar accidents to trains.

The items affected by these changes have beenastericked in the statement below.

Further, in the case of statistics of casualties, the incapacity for work of the injured person should extend to more than 48 hours both in the case of a railway servant and member of the public, instead of the previous provision to exclude 'petty abrasions or bruises of a minor nature' in the case of the latter. The statistics of 'serious' and 'minor' injuries are now being separately recorded in Appendix D of Volume II of this Report, the 'serious' injuries being those resulting in 'grievous hurt' as defined in Section 320 of the Indian Penal Code.

ACCIDENTS DURING 1950-1 AND 1951-2 CLASSIFIED UNDER PRINCIPAL HEADS

	1950-1	1951-2
(1) Running over cattle	5,176	**5,343**
(2) Accidents due to failure of engines, owing to faulty material, workmanship and operation arising from the working of the running staff	2,434	**2,687***
(3) Accidents due to failure of coupling and draft gear	2,656	**2,308***
(4) Accidents due to failure of engines owing to faulty design, material and workmanship in the Mechanical Department	1,634	**1,510***
(5) Derailments not involving passenger trains	7,447	**1,419***
(6) Accidents due to other rolling-stock failures	420	**924***
(7) Fires in trains, at stations and bridges	481	**436***
(8) Derailment of passenger trains	239	**252**
(9) Accidents due to failure of axles	108	**178***
(10) Broken rails	127	**162**
(11) Attempted train wrecking	206	**139**
(12) Trains running into road traffic at level crossings	134	**127**
(13) Running over obstructions (other than those included under 'train wrecking', 'attemted train wrecking' and 'trains running into road traffic at level crossings')	153	**108**
(14) Collisions involving goods trains or goods vehicles	239	**99***
(15) Passenger trains running in the wrong direction through points but not derailed	35	**38**
(16) Collisions involving passenger trains	30	**32**
(17) Flooding of permanent way	122	**32***
(18) Accidents due to failure of tyres and wheels	4	**26***
(19) Collisions between light engines	39	**25***
(20) Landslips	18	**21***
(21) Accidents due to failure of brake apparatus	40	**18***
(22) Train wrecking	23	**12**
(23) Failure of bridges, tunnels, etc.	15	**5**
(24) Miscellaneous	635	**519***
Total	22,415	**16,420**

* These items have been affected by changes in instructions referred to in paragraph above.

Running over cattle accounts for the largest number of accidents: the percentage of the number of accidents to total are given below in the descending order of their number:

	Per cent
Running over cattle	33
Accidents due to failure of engines owing to faulty material, workmanship and operation arising from the working of the running staff	16
Accidents due to failure of couplings and draft gear	14
Accidents due to failure of engines owing to faulty design, material and workmanship in the Mechanical Department	9
Derailments not involving passenger trains	9
Accidents due to other rolling-stock failures	6
Fires in trains at stations and bridges	3
Derailments of passenger trains	1·5
Accidents due to failure of axles	1

Accidents in railway workshops accounted for the death of six and injuries to 17,959 railway servants, or a drop of 1 in the former and 1,298 in the latter as compared with the previous year.

The number of passengers, railway servants and other persons killed and injured in accidents on Indian Railways exclusive of casualties in Railway Workshops during 1951-2 as compared with the previous year may be seen from the table below:

NUMBER OF PERSONS INJURED IN ACCIDENTS ON ALL RAILWAYS DURING 1950-1 AND 1951-2.

Classification	Killed		Injured	
	1950-1	1951-2	1950-1	1951-2
A—Passengers—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	174	38	745	307
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents	414	403	3,436	3,282
(c) In accidents on railway premises in which the movement of trains, vehicles, etc. was not concerned	1	..	28	35
TOTAL	589	441	4,209	3,624
B—Railway servants—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	26	12	261	153
(b) In accidents caused by the movement of trains and railway vehicles exclusive of train accidents	151	145	5,997	5,400
(c) In accidents on railway premises in which the movement of trains, vehicles, etc. was not concerned	22	28	19,112	18,340
TOTAL	199	185	25,370	23,893
C—Other than passengers and railway servants—				
(a) In accidents to trains, rolling-stock, permanent way, etc.	92	77	119	125
(b) In accidents caused by movement of trains and railway vehicles exclusive of train accidents	3,219	3,500	1,955	1,931
(c) In accidents on railway premises in which movement of trains vehicles, etc. was not concerned	18	11	59	70
TOTAL	3,329	3,588	2,133	2,126
GRAND TOTAL	4,117	4,214	31,712	29,643

Of the total of 4,214 persons killed, 3,588 or 85 per cent were other than passengers and railway servants and, of this number, 2,997 were trespassers and 285 were suicides. Altogether 39 persons were killed on railway premises otherwise than during the movement of trains, vehicles, etc.

As compared with the previous year, the number of passengers killed and injured in accidents to trains, rolling-stock, and permanent way, etc., decreased by 165 and 540 respectively owing to fewer number of major accidents, involving less number of casualties in each.

There is an all round decrease in the casualty figures under the other classes of accidents, except in the following cases in which the increases are slight:

		Killed	Injured
(i) In accidents to trains, rolling-stock, permanent way, etc.,—other than passengers and railway servants.			+6
(ii) In accidents caused by movement of trains and railway vehicles exclusive of train accidents—other than passengers and railway servants.		+281	
(iii) In accidents on railway premises in which the movement of trains, vehicles etc., was not concerned :—			
	Passengers		+7
	Railway servants	+6	
	Others		+11

The following statement shows the number of passengers killed and injured in train accidents only, *i.e.,* collisions, derailments, etc., during the last five years as compared with the number carried:

NUMBER OF PASSENGERS KILLED AND INJURED IN TRAIN ACCIDENTS ON ALL RAILWAYS FROM 1947-8 TO 1951-2

Year	No. of passengers carried (in millions)	Killed		Injured	
		Number†	Per million passengers carried	Number†	Per million passengers carried
1947-8*	1,044	298	0·29	721	0·69
1948-9	1,185	55	0·05	260	0·22
1949-50	1,255‡	111	0·09	365	0·29
1950-1	1,308‡	21	0·02	284	0·22
1951-2	1,232	38	0·03	294	0·24

* Figures for the E. P. and Assam Railways are included only for the period 15 August 1947 to 31 March 1948.

† Excludes train-wrecking and attempted train wrecking.

‡ Revised figures.

On Class I Railways, the number of railway servants killed in accidents caused by the movement of trains and railway vehicles exclusive of train accidents increased by 4 while the number of these injured decreased by 579. The figures for the previous year (1950-1) however, do not include the small

Class II and III Railways integrated with the Western and Central Railways during the year 1951-2. The main causes for these accidents are analysed in the following table:

CLASSIFICATION OF ACCIDENTS TO RAILWAY SERVANTS

Cause	Killed		Injuries	
	1950-1	1951-2	1950-1	1951-2
(1) Misadventure or accidental	117	118	5,478	4,975
(2) Want of caution or misconduct on the part of the injured person	23	26	463	385
(3) Want of caution or breach of rules, etc. on the part of railway servants other than the persons injured	1	1	25	27
(4) Defective apparatus, appliance, etc. or want of sufficient appliances, safeguards, etc.	..	..	1	1
TOTAL	141	145	5,967	5,388

152. Appointment of Claims Commissioners.—During the year under review, three Claims Commissioners were appointed in respect of the following major accidents:

(i) Side collision between 32 Down Passenger and a shunting engine at Darbhanga on the East Indian Railway on 11 May 1951.

(ii) Accident to 1 Up Assam Link Express between Nagrakata and Carron on the Assam Railway on 26 August 1951.

(iii) Accident to 8 Down Mixed train between Gotra and Noli stations on the Shahdara-Saharanpur Light Railway on 3 September 1951.

These Claims Commissioners between them disposed of 47 claims decreeing Rs. 56,392-10. In addition, the other Claims Commissioners appointed during the previous years continued to dispose of pending cases.

APPENDIX A

Resolution regarding the separation of Railway from General Finances, adopted by the Legislative Assembly on 20 September 1924 and Convention Resolutions of 1943 and 1949.

"This Assembly recommends to the Governor General in Council that in order to relieve the general budget from the violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry out a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State on Railways.

(1) The railway finances shall be separated from the general finances of the country and the general revenues shall receive a definite annual contribution from railways which shall be the first charge on the net receipts of railways.

(2) The contribution shall be based on the capital at charge and working results of commercial lines, and shall be a sum equal to one per cent on the capital at charge of commercial lines (excluding capital contributed by companies and Indian States) at the end of the penultimate financial year *plus* one-fifth of any surplus profits remaining after payment of this fixed return, subject to the condition that, if in any year railway revenues are insufficient to provide the percentage of one per cent on the capital at charge surplus profits in the next or subsequent years will not be deemed to have accrued for purposes of division until such deficiency has been made good.

The interest on the capital at charge of, and the loss in working, strategic lines shall be borne by general revenues and shall consequently be deducted from the contribution so calculated in order to arrive at the net amount payable from railway to general revenues each year.

(3) Any surplus remaining after this payment to general revenues shall be transferred to a railway reserve; provided that if the amount available for transfer to the railway reserve exceeds in any year three crores of rupees only two-thirds of the excess over three crores shall be transferred to the railway reserve and the remaining one-third shall accrue to general revenues.

(4) The railway reserve shall be used to secure the payment of the annual contribution to general revenues; to provide, if necessary, for arrears of depreciation and for writing down and writing off capital; and to strengthen the financial position of railways in order that the services rendered to the public may be improved and rates may be reduced.

(5) The railway administration shall be entitled, subject to such conditions as may be prescribed by the Government of India, to borrow temporarily from the capital or from the reserves for the purpose of meeting expenditure for which there is no provision or insufficient provision in the revenue budget subject to the obligation to make repayment of such borrowings out of the revenue budgets of subsequent years.

(6) A Standing Finance Committee for Railways shall be constituted consisting of one nominated official member of the Legislative Assembly who should be chairman and eleven members elected by the Legislative Assembly from their body. The members of the Standing Finance Committee for Railways shall be *ex-officio* members of the Central Advisory Council, which shall consist, in addition, of not more than one further nominated official member, six non-official members selected from a panel of eight elected by the Council of State from their body and six non-official members selected from a panel of eight elected by the Legislative Assembly from their body.

The Railway Department shall place the estimate of railway expenditure before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for grants for railways and shall, as far as possible, instead of the expenditure programme revenue show the expenditure under a depreciation fund created as per the new rules for charge to capital and revenue.

(7) The railway budget shall be presented to the Legislative Assembly if possible in advance of the general budget and separate days shall be allotted for its discussion, and the Member in charge of Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the railway budget, including expenditure from the depreciation fund and the railway reserve, shall be placed before the Legislative Assembly in the form of demands for grants. The form the budget shall take after separation, the detail it shall give and the number of demands for grants into which the total vote shall be divided shall be considered by the Railway Board in consultation with

the proposed Standing Finance Committee for Railways with a view to the introduction of improvements in time for the next budget, if possible.

(8) These arrangements shall be subjected to periodic revision but shall be provisionally tried for at least three years.

(9) In view of the fact that the Assembly adheres to the resolution passed in February 1923, in favour of State management of Indian Railways, these arrangements shall hold good only so long as the East Indian Railway and the Great Indian Peninsula Railway and existing State-managed railways remain under State management. But if in spite of the Assembly's resolution above referred to Government should enter on any negotiations for the transfer of any of the above railways to Company management such negotiations shall not be concluded until facilities have been given for a discussion of the whole matter in the Assembly. If any contract for the transfer of any of the above railway to company management is concluded against the advice of the Assembly, the Assembly will be at liberty to terminate the arrangements in this Resolution.

Apart from the above convention this Assembly further recommends—

(i) that the railway services should be rapidly Indianised, and further that Indians should be appointed as Members of the Railway Board as early as possible, and

(ii) that the purchases of stores for the State Railways should be undertaken through the organization of the Stores Purchase Department of the Government of India."

Convention Resolution of 1943

The Legislative Assembly on 2 March 1943 passed the following resolution:—

"Whereas it has been found that the Convention, which was adopted under the Assembly Resolution, dated 20 September 1924, and which was intended to relieve the General Budget from violent fluctuations caused by the incorporation therein of the railway estimates and to enable railways to carry on a continuous railway policy based on the necessity of making a definite return to general revenues on the money expended by the State, has not achieved these objects, this Assembly recommends to the Governor General in Council that:

(i) for the year 1942-3, a sum of Rs. 2,35,32 thousand shall be paid to general revenues over and above the current and arrear contribution due under the Convention,

(ii) from 1 April 1943, so much of the Convention as provides for the contribution and allocation of surpluses to general revenues shall cease to be in force,

(iii) for the year 1943-4, the surplus on commercial lines shall be utilised to repay any outstanding loan from the depreciation fund and thereafter be divided 25 per cent to the railway reserve and 75 per cent to general revenues, the loss, if any, on strategic lines being recovered from General Revenues, and

(iv) for subsequent years and until a new convention is adopted by the Assembly, the allocation of the surplus on commercial lines between the railway reserve and general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic lines being recovered from general revenues."

Convention Resolution of 1949

The Constituent Assembly of India (Legislative) on 21 December 1949 passed the following resolution:—

"This Assembly, after considering the recommendations of the Committee appointed by it in April 1949 to review the Convention relating to the separation of railway from general finance which was adopted under the Assembly Resolution, dated 20 September 1924, and in supersession of that and all other previous resolutions on the subject, resolve:—

(1) that railway finance shall continue to remain separated from general finance;

(2) that the general tax-payer shall have the status of the sole shareholder in the railway undertaking;

(3) that on the capital invested out of general revenues in the railway undertaking as computed annually, general revenues shall receive only a fixed annual dividend;

(4) that for a period of five years, commencing from 1950-1, the annual dividend, shall be a sum calculated at the rate of 4 per cent on the capital invested provided that no dividend shall be payable on the

capital invested out of general revenues in unremunerative strategic lines;

(5) that a Committee of the House shall review the rate of dividend towards the end of the aforesaid period and suggest for the years following it any adjustment considered necessary, having regard to the revenue returns of the railway undertaking, the average borrowing rate of government and any other relevant factors;

(6) that the existing railway reserve shall be renamed the Revenue Reserve Fund and utilised primarily for maintaining the agreed payments to general revenues and for making up any deficit in the working of the railways;

(7) that a Development Fund shall be constituted for financing expenditure for the following purposes:—

(*a*) passenger amenities,

(*b*) labour welfare, and

(*c*) railway projects which are necessary, but unremunerative;

(8) that for meeting the cost of replacement and renewal of assets, the Depreciation Reserve Fund shall receive, for the next five years, a minimum contribution of Rs. 15 crores per annum chargeable to the working expenses of the undertaking;

(9) that the railway surplus shall be available for distribution amongst the Revenue Reserve Fund, the Development Fund, and the Depreciation Reserve Fund to the extent the last-named needs strengthening over and above the minimum annual contribution;

(10) that a Standing Finance Committee for Railways and a Central Advisory Council for Railways shall be constituted in the manner laid down in the motion adopted by this House on 23 March 1949;

(11) that the annual estimates of railway expenditure shall be placed before the Standing Finance Committee for Railways on some date prior to the date for the discussion of the demands for grants for railways by the Assembly; and

(12) that the Railway Budget shall be presented to the House, if possible, in advance of the general budget and separate days shall be allotted for its discussion and the Minister for Railways shall then make a general statement on railway accounts and working. The expenditure proposed in the Railway Budget, including the appropriation to the Depreciation Reserve Fund, the Development Fund, and the Revenue Reserve Fund shall be placed before the House in the form of demands for grants. The form the budget shall take, the details it shall give, and the number of grants into which the total vote shall be divided, shall be drawn up by the Ministry of Railways in consultation with the Standing Finance Committee for Railways.

2. This Resolution shall come into force from 1 April 1950."

APPENDIX B

MINISTRY OF RAILWAYS

Officers of the Ministry of Railways (Railway Board) and attached offices on 31 March 1952

Shri N. Gopalaswami Ayyangar, Minister for Transport and Railways

Dr. B. V. Keskar, Deputy Minister for Transport and Railways

Railway Board

Shri F. C. Badhwar	Chairman and Member Engineering
„ A. K. Chanda	Financial Commissioner for Railways
„ V. Nilakantan	Member (Staff)
„ S. S. Vasist	Member (Transportation)
„ H. K. L. Sethi	Director, Civil Engineering
„ P. N. Saxena	Director, Establishment
„ N. C. Deb	Director, Finance (Budget)
„ K. Sadagopan	Director, Finance (Expenditure)
„ P. Morris	Director, Mechanical Engineering
„ A. K. Basu	Director, Traffic
„ L. A. Natesan	Economic Adviser
„ D. C. Baijal	Joint Director, Civil Engineering
„ V. T. Narayanan	Joint Director, Establishment
„ K. V. Kasturi Rangan	Joint Director, Finance (Budget)
„ D. Sandilya	Joint Director, Finance (Establishment)
„ P. C. Kapur	Joint Director, Mechanical Engineering
„ S. K. Guha	Joint Director, Traffic (General)
„ Ranjit Singh	Joint Director, Traffic (Transportation)
„ Haveli Ram	Secretary
„ S. S. Verma	Deputy Director, Civil (Engineering)
„ R. Srinivasan	Deputy Director, Establishment I
„ S. L. Jaini	Deputy Director, Establishment II
„ M. L. Mukherjee	Deputy Director, Finance (Establishment)
„ K. S. A. Padmanabhan	Deputy Director, Finance (Expenditure)
„ B. R. Nanda	Deputy Director, Preferential Traffic
„ G. Rama Rau	Deputy Director, Statistics
„ I. C. Bhatt	Deputy Director, Tele. Communication
„ Rajendra Dev	Deputy Director, Traffic Transportation
„ N. L. Das Gutpa	Assistant Secretary
„ A. Hildreth	Assistant Director, Establishment
„ D. C. Rewari	Assistant Director, Finance (Budget)
„ V. R. Ganeshan	Assistant Director, Finance (General)
„ Surjan Singh	Assistant Director, Traffic (Commercial)

Attached Officers

Shri A. A. Brown	Officer on Special Duty (Commercial)
„ B. B. Mathur	Officer on Special Duty (Regrouping)
„ R. Krishnaswamy	Officer on Special Duty (Transportation Power)
„ K. L. Ghei	Officer on Special Duty (Stores Reorganization)
„ J. K. Verma	Officer on Special Duty (Co-operatives)
„ C. Konar	Officer on Special Duty (Stores Investigation)
„ D. R. Suri	Officer on Special Duty (Movements)

Superintendents

Shri Ram Singh	Budget Branch
„ P. M. Narasimhan	Establishment I Branch
„ N. Rajagopalan	Establishment II Branch
„ R. R. Hariharan	Establishment III Branch
„ P. S. Doraisamy	Establishment IV Branch
„ P. B. Jain	Establishment Special Branch
„ Tara Chand	Establishment Special Branch (on leave)
„ Parshotam Lal	Finance, Establishment Branch
„ Kunwar Bahadur	Finance, Expenditure Branch
„ Acharaj Ram	General Branch
„ A. C. Ahuja	Mechanical Engineering Branch
„ A. Mascarenhas	Preferential Traffic Branch
„ A. R. Chitnis	Statistics Branch
„ R. N. Datta	Stores Re-organization Branch
„ S. Sivaraman	Traffic, Commercial Branch
„ A. N. Sheopary	Traffic, Transportation Branch
„ M. P. Haran	Works Branch

Officers serving on Committees

Fuel Economy Committee

Shri D. C. Driver	Chairman
„ R. A. Massey	Member
„ A. B. Guha	Member
Dr. J. W. Whitakar	Member
Shri M. V. Kamlani	Member/Secretary

Ganga Bridge Committee

Shri M. Visvesvaraya	Chairman
„ B. B. Varma	Assessor
„ V. P. Bhandarkar	Assessor
„ P. B. Advani	Assessor
„ D. C. Baijal	Secretary

Attached Office

Central Standards Office for Railways

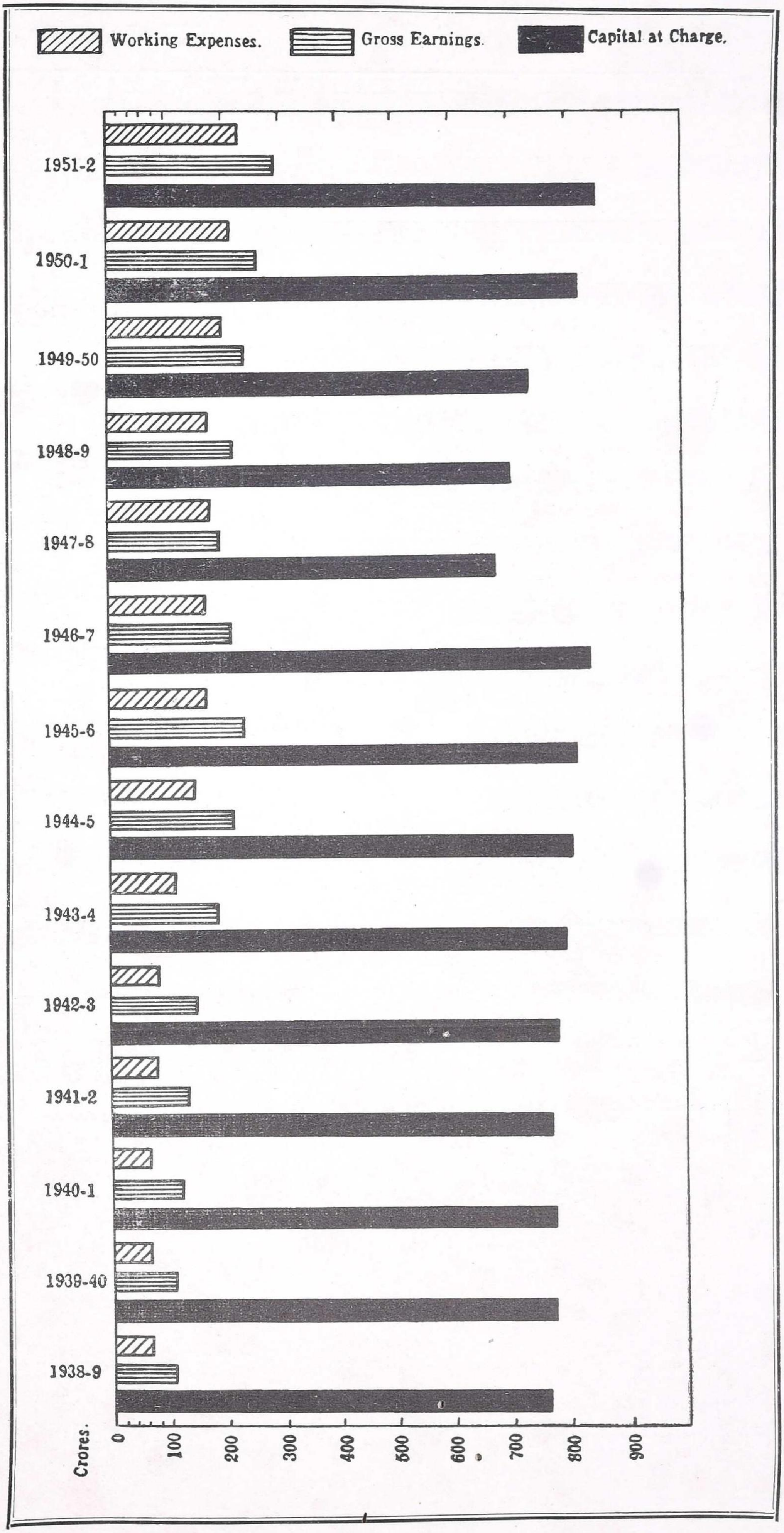
Shri D. Narayanaswamy Chetty.	Deputy Chief Controller of Standardization-in-Charge
„ B. S. Sindhu	Deputy Chief Controller of Standardization (C & W)
„ R. H. G. Da Cunha Da Costa.	Deputy Chief Controller of Standardization (Designs)
„ V. Venkataramayya	Deputy Chief Controller of Standardization (Civil)
„ L. C. Mohindra	Assistant Chief Controller of Standardization (Civil)
„ S. R. Woodmore	Assistant Chief Controller of Standardization (S & R)
„ R. Krishnamurti	Assistant Chief Controller of Standardization (Loco)
„ R. Rajagopalan	Assistant Chief Controller of Standardization (Coach-Building)
„ B. L. Bailur	Assistant Chief Controller of Standardization (Loco & Carr)
„ M. S. Murti	Research Officer (Mech)
„ Kurt Vogl	Research Officer (Civil) I
„ Walter Frey	Research Officer (Civil) II
„ R. G. Bhatawadekar	Research Officer (M & C)
„ S. S. Varma	Research Officer (Soil Mechanics)
„ R. Basu Chowdhury	Research Officer (Designs of Steel Structures)
„ R. K. Sethi	Inspecting Officer (Loco & Boilers)
„ N. B. Shroff	Architect
„ M. B. Ramchandani	Research Officer (Electrical)
„ S. Ramanujam	Research Officer (M & C) Class II
„ Salig Ram	Inspecting Officer for Railways, Tatanagar
„ B. V. Mallya	Dynamometer Car Officer
„ C. S. P. Sastry	Oscillograph Car Officer
„ K. S. Krishnan	Sectional Officer, L D O
„ A. V. Srinivasan	Sectional Officer, L D O

APPENDIX C.

GRAPHS

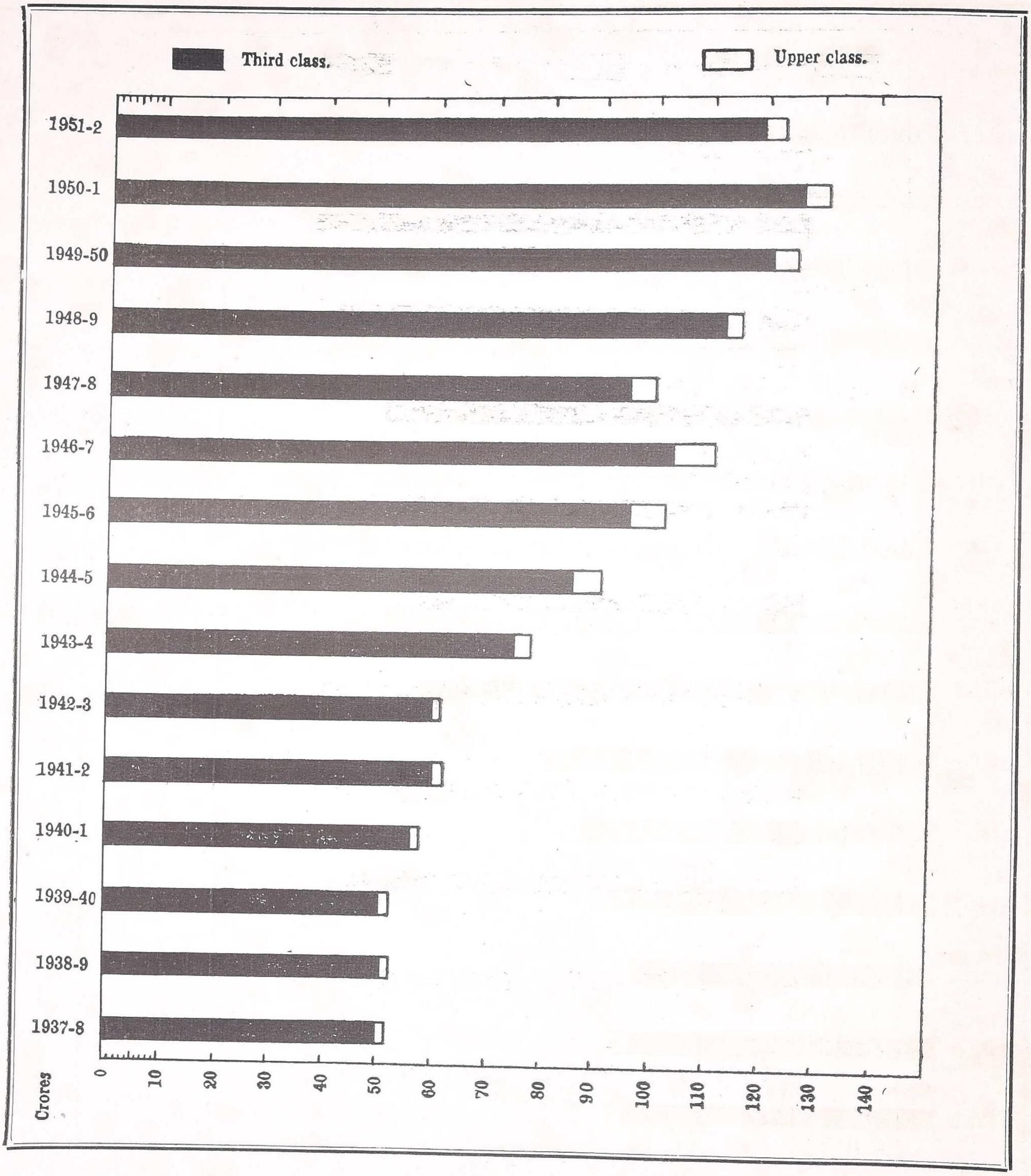
I—TOTAL CAPITAL AT CHARGE, TOTAL GROSS EARNINGS AND TOTAL WORKING EXPENSES OF INDIAN GOVERNMENT RAILWAY LINES

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



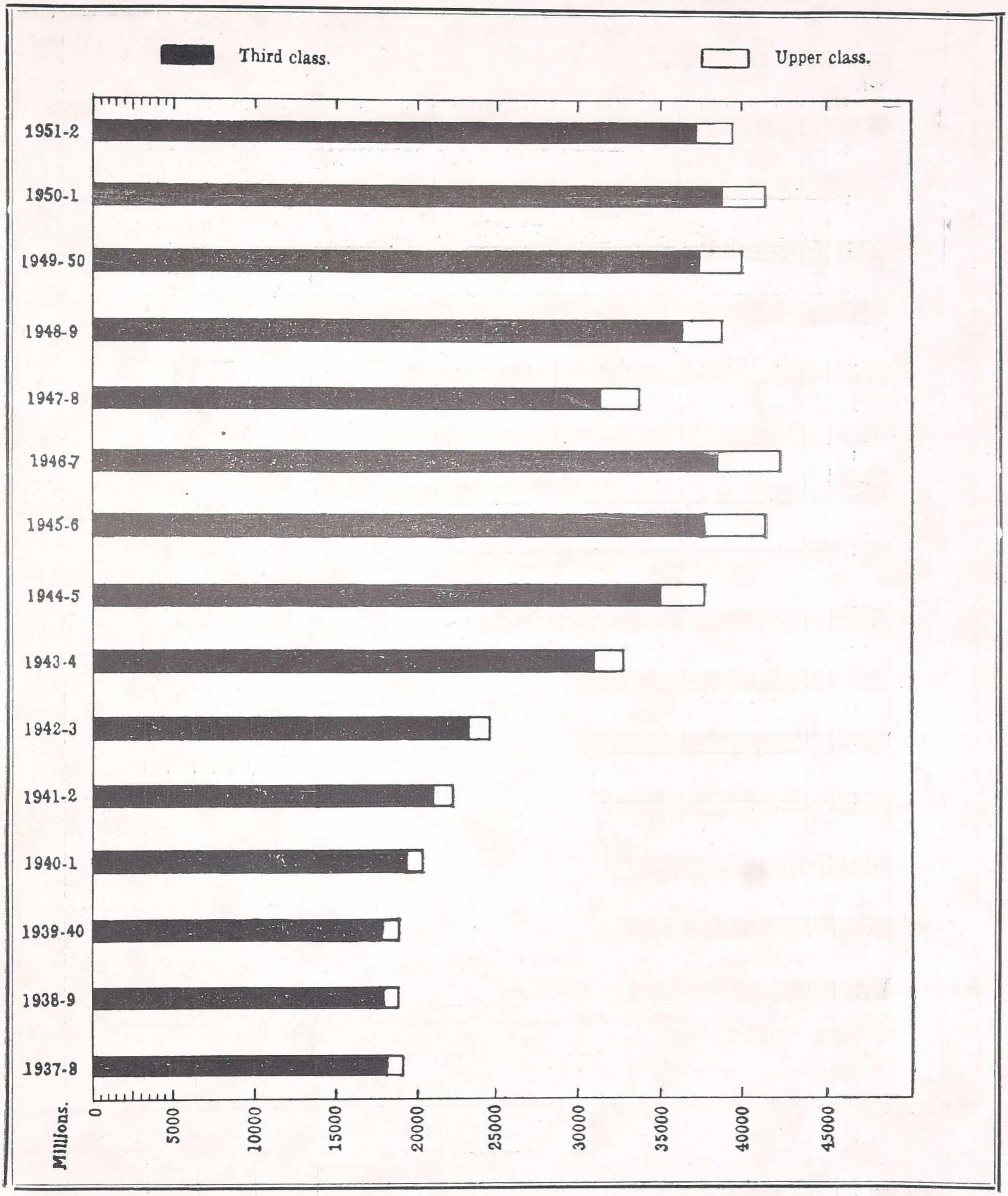
II—NUMBER OF PASSENGERS CARRIED ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



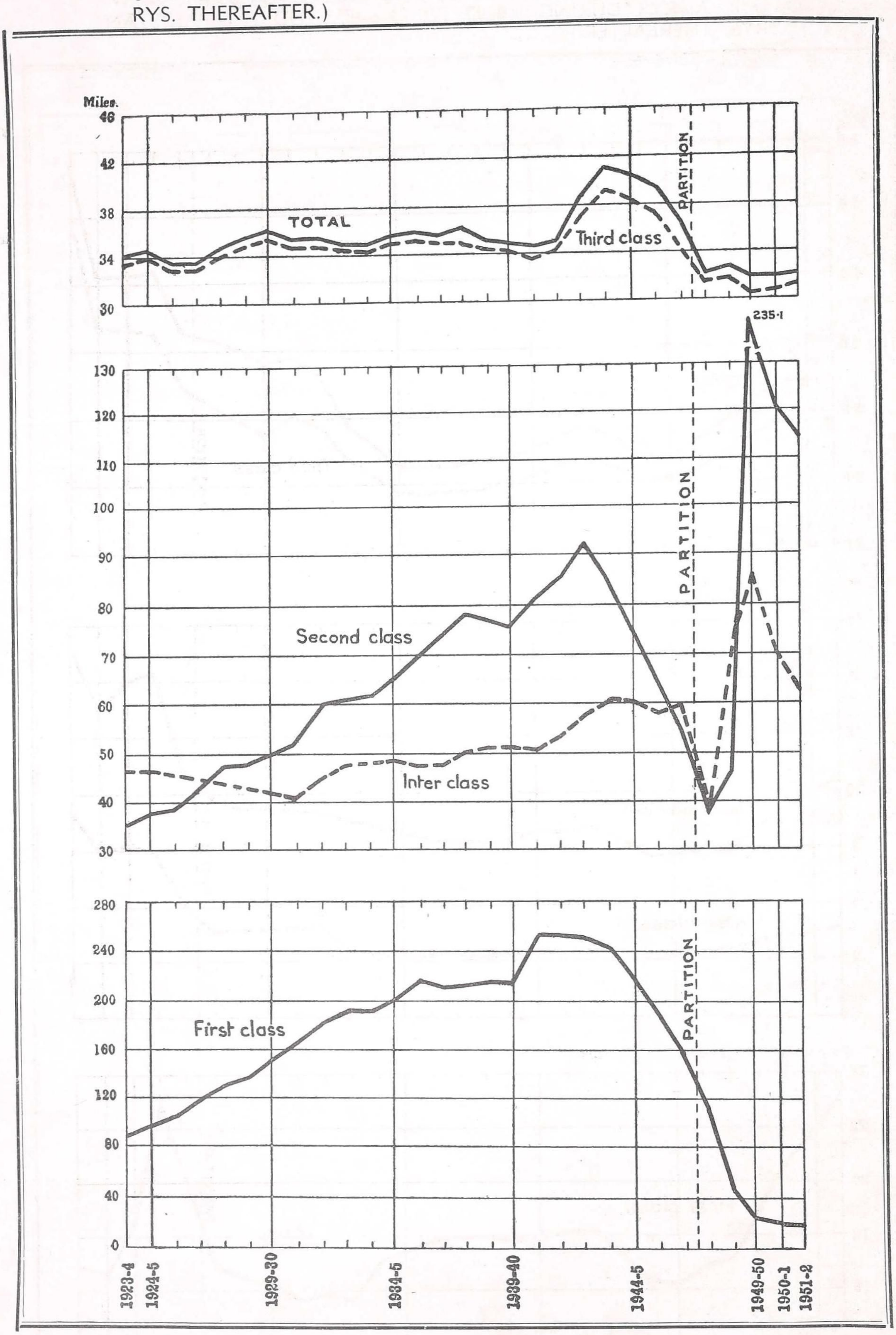
III—NUMBER OF PASSENGER MILES ALL INDIAN RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



IV—AVERAGE MILES A PASSENGER WAS CARRIED ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)

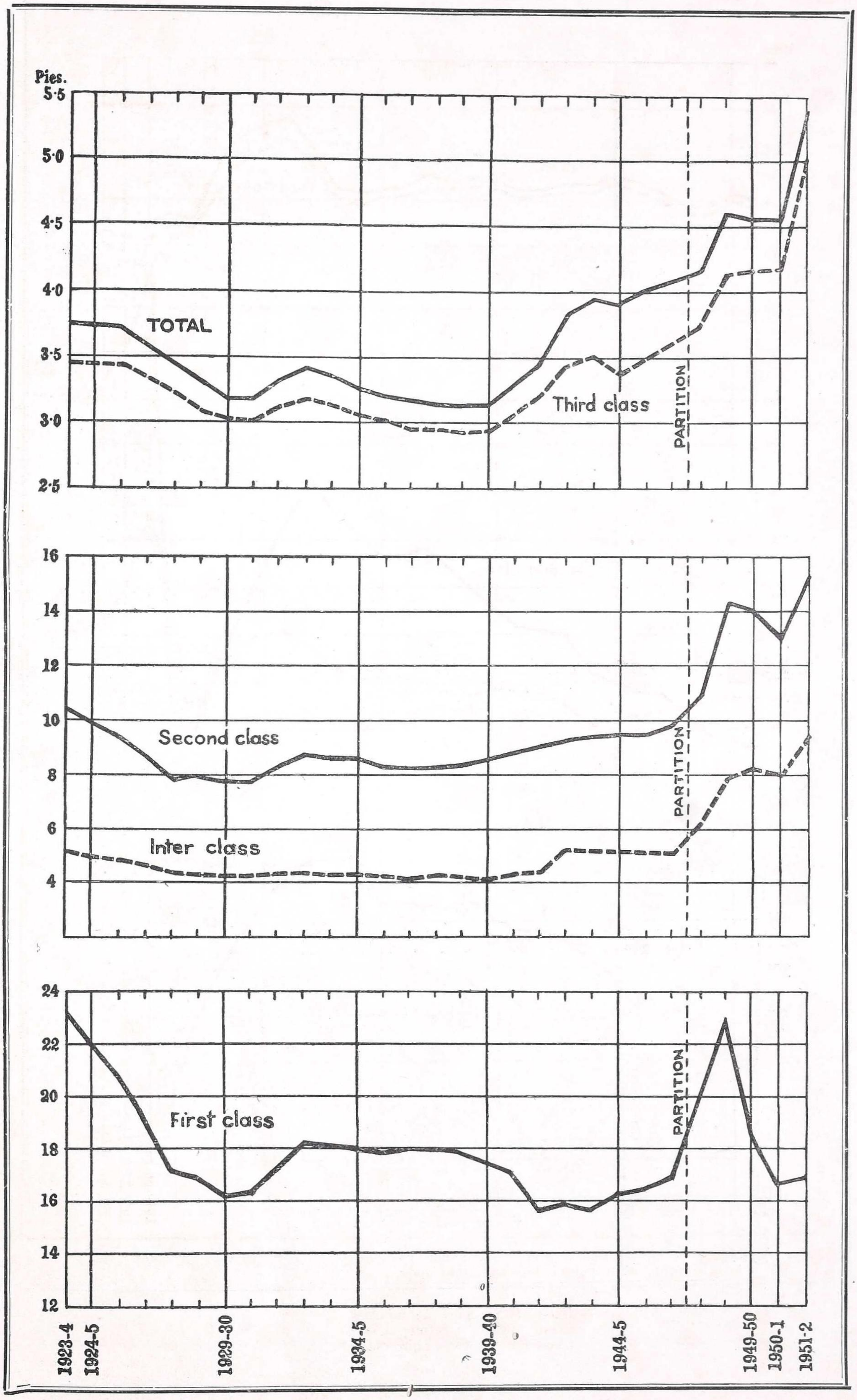


NOTE.—The classification between 1 December 1948 and 30 June 1950 has been taken to correspond with the old classification as under :—

Class I	=First Class
Class II Special	=Second class
Class II	=Inter class
Class III	=Third class

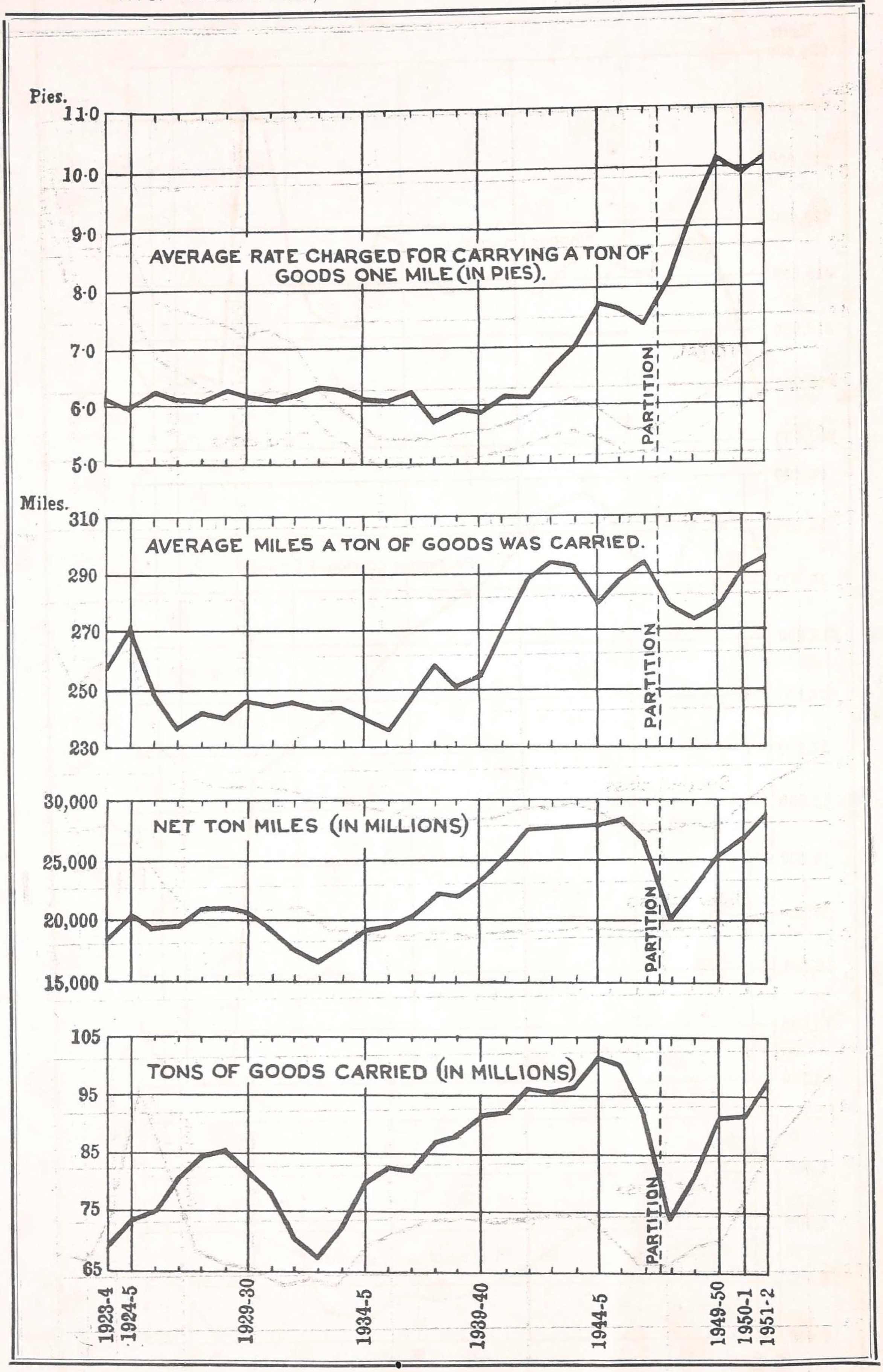
V—AVERAGE RATE CHARGED PER PASSENGER PER MILE ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



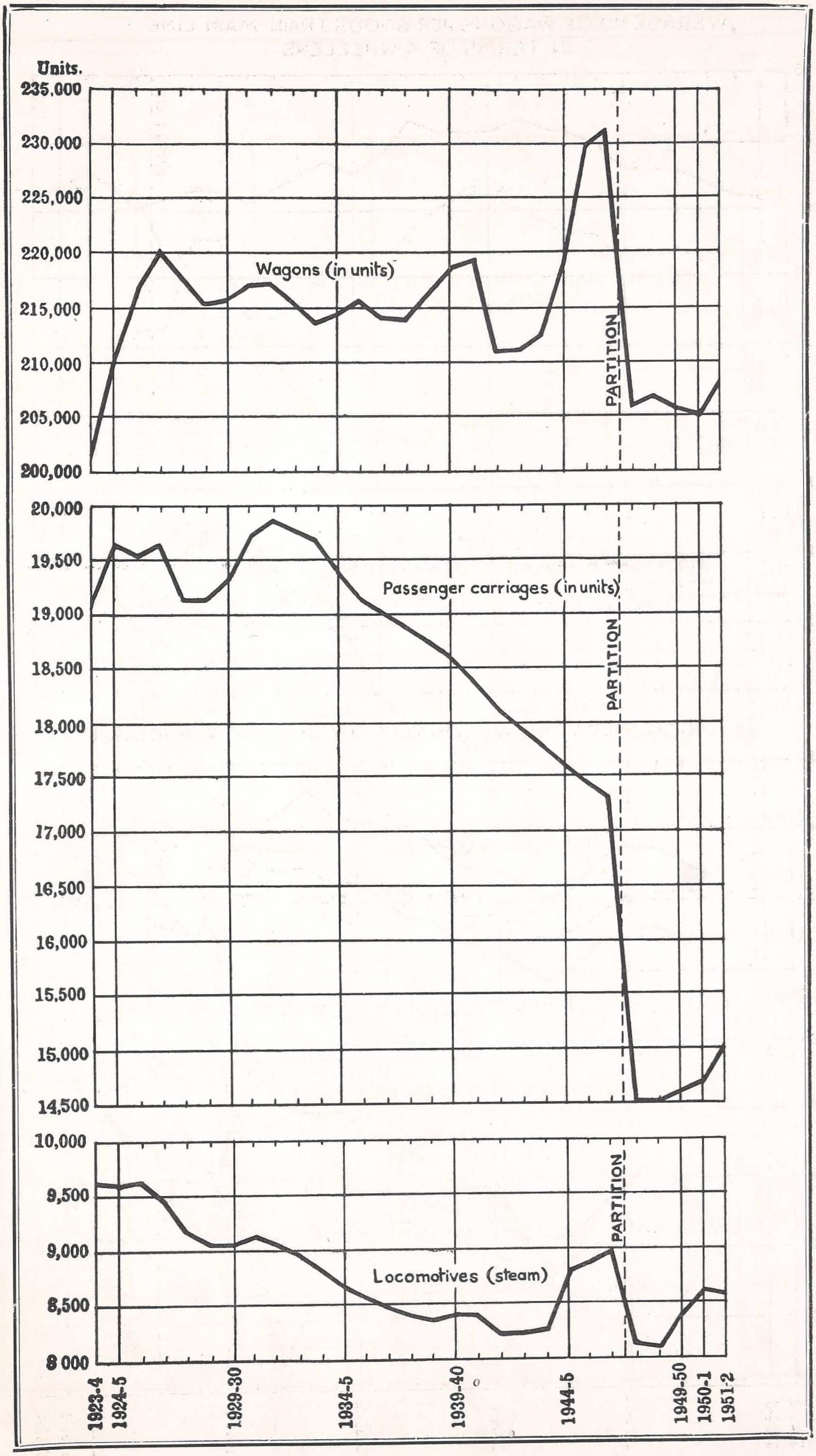
VI—AVERAGE RATE, AVERAGE LEAD, NET TON MILES, TONS CARRIED ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



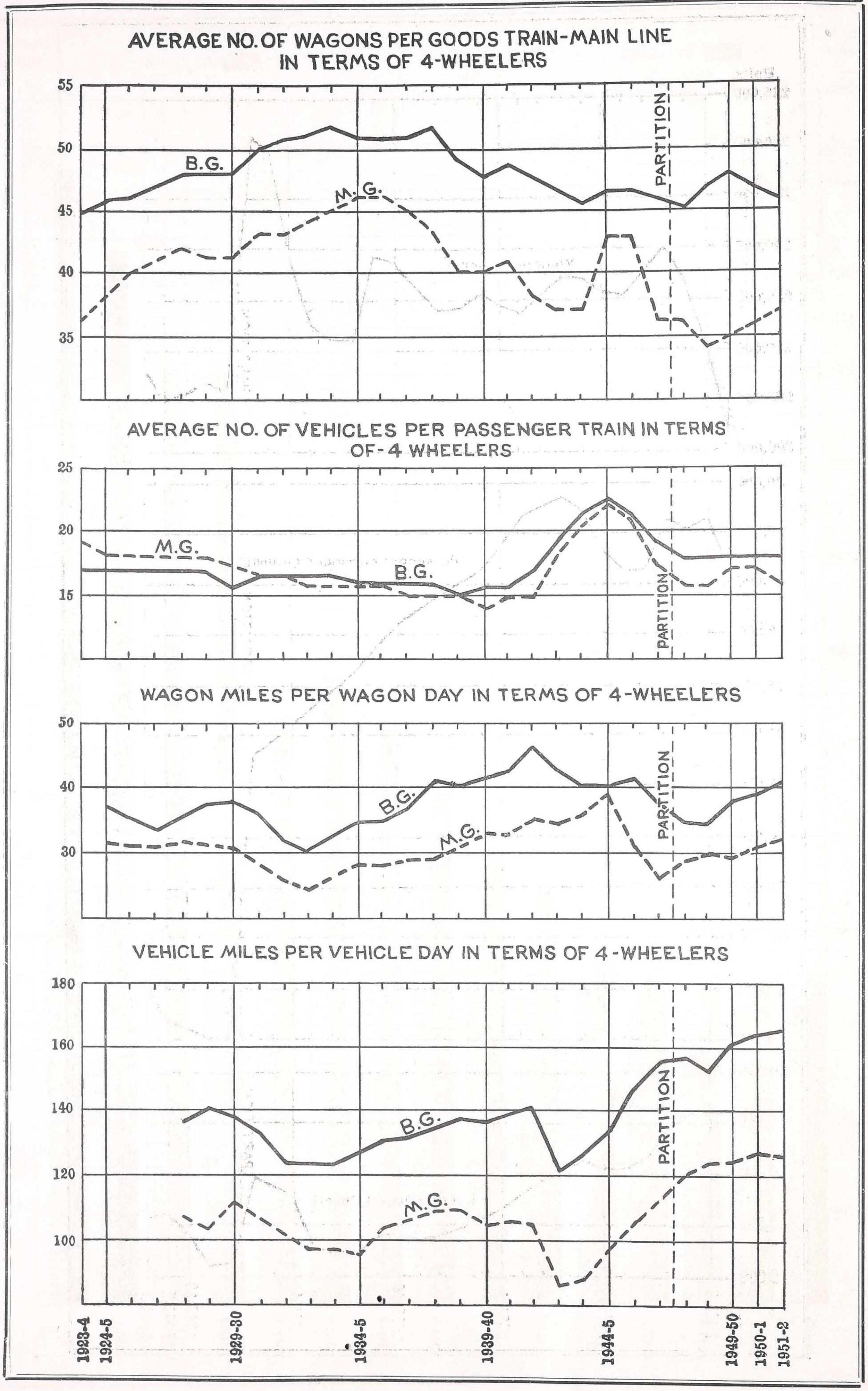
VII—ROLLING-STOCK IN SERVICE ALL INDIAN RAILWAYS

(EXCLUDING BURMA RAILWAYS DURING 1923-4 TO 1936-7, N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



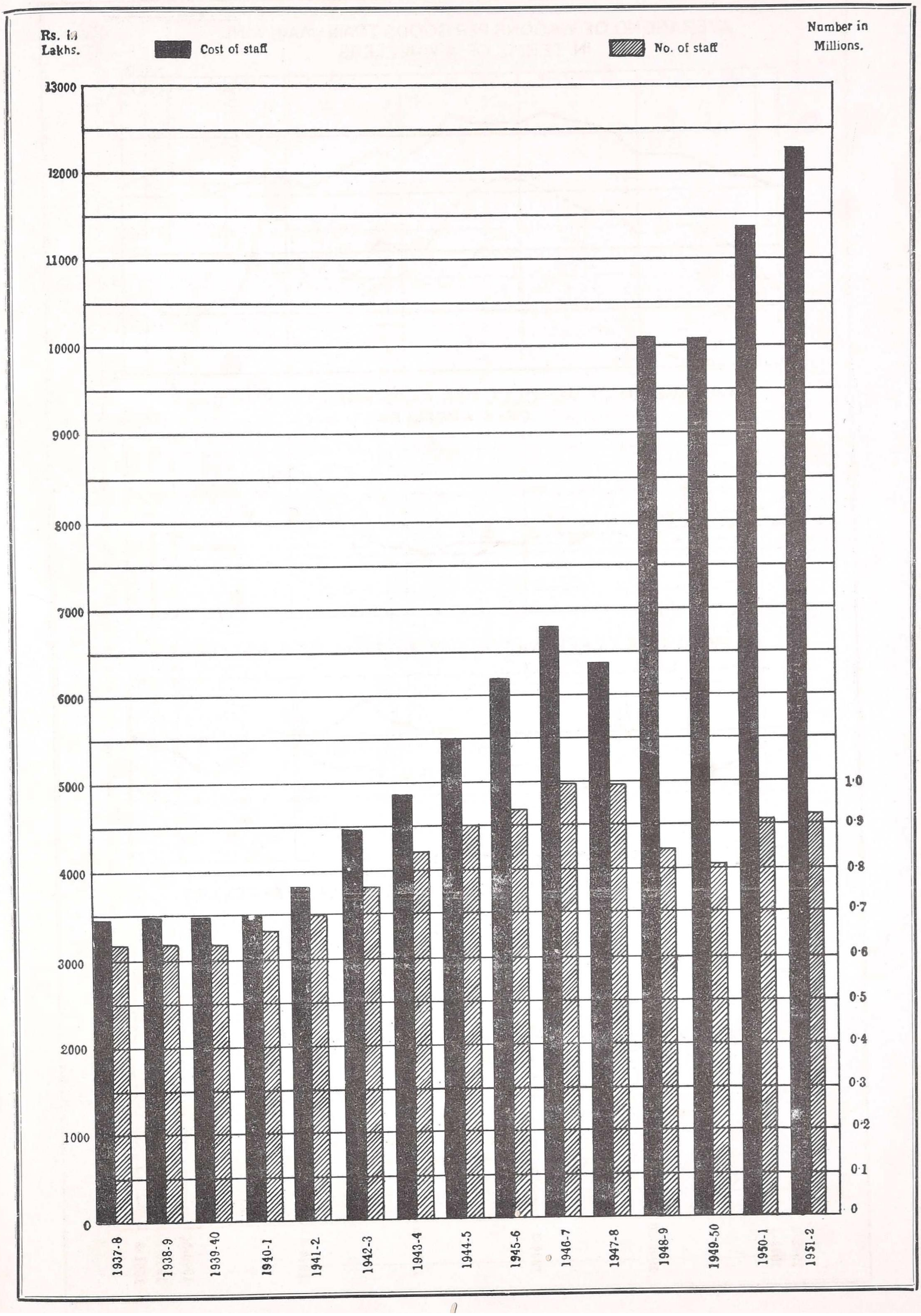
VIII—WAGON AND VEHICLE UTILIZATION, CLASS I RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



IX—TOTAL NUMBER AND COST OF STAFF INDIAN GOVERNMENT RAILWAYS

(EXCLUDING N. W. & B. A. RYS. DURING 1-4-47 TO 14-8-47, AND THE PAKISTAN RYS. THEREAFTER.)



APPENDIX D

Railway Administrations in India alphabetically arranged by Classes according to their gross earnings showing the working agencies, ownership, and route mileage open on 31 March 1952.

Indian Railway systems have been classified under three Classes for statistical purposes:—

Class I Railways with gross earnings of Rs. 50 lakhs and over a year.

Class II Railways with gross earnings of less than Rs. 50 lakhs a year, but exceeding Rs. 10 lakhs a year.

Class III Railways with gross earnings of Rs. 10 lakhs and under a year.

No reclassification of Railways has been made after 1942 although earnings in many cases have exceeded the limits of gross earnings laid down for Class II or Class III Railways.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS I RAILWAYS			
(1) Assam	Indian Government	(a) Assam†	5′-6″	2	Indian Government
		(b) Assam	3′-3⅜″	1,647	Do.
		(c) Chaparmukh-Silghat‡	3′-3⅜″	51	Branch Line Company under guarantee terms
		(d) Katakhal-Lalabazar‡	3′-3⅜″	23	Do.
		(e) Assam (D. H.) section	2′-0″	52	Indian Government
(2) Bengal Nagpur	Indian Government	(a) Bengal Nagpur	5′-6″	2,463	Do.
		(b) Bengal Nagpur	2′-6″	925	Do.
(3) Bikaner State	Indian Government	Bikaner State	3′-3⅜″	883	Do.
(4) Central	Indian Government	(a) Central	5′-6″	4,091	Do.
		(b) Central	3′-3⅜″	772	Do.
		(c) Central	2′-6″	117	Do.
		(d) Ellichpur-Yeotmal	2′-6″	118	Branch line Company under rebate terms
		(e) Pulgaon-Arvi	2′-6″	22	Do.
		(f) Central	2′-0″	307	Indian Government
(5) East Indian	Indian Government	(a) East Indian	5′-6″	4,365	Do.
		(b) Kanpur-Barabanki & others	3′-3⅜″	6	Do.
		(c) Santipur-Nabadwip	2′-6″	17	Do.
(6) Eastern Punjab	Indian Government	(a) Eastern Punjab	5′-6″	1,726	Do.
		(b) Rupar-Nangal Dam§	5′-6″	34	Do.
		(c) Kalka-Simla	2′-6″	60	Do.
		(d) Kangra Valley	2′-6″	68	Do.
(7) Jodhpur	Indian Government	Jodhpur	3′-3⅜″	796	Indian Government
(8) Oudh Tirhut	Indian Government	Oudh Tirhut	3′-3⅜″	2,757	Do.

† This line is laid between Haldibari and Pakistan Border for direct communication with Pakistan.

‡ This line is guaranteed by the Government of India and also received a subsidy from the Assam Government for the first ten years.

§ Jointly owned by the Government of India and the Government of the Punjab.

Railway system: Name	Railway system: Worked by	Lines comprised in the system: Name	Gauge	Route mileage	Owned by
		CLASS I RAILWAYS—*concld.*			
(9) Southern	Indian Government	(*a*) Southern	5′-6″	1,729	Indian Government.
		(*b*) Cochin Harbour Extension	5′-6″	4	Cochin Harbour Authority.
		(*c*) Tenali-Repalle	5′-6″	21	District Board, Guntur
		(*d*) Southern	3′-3⅜″	4,006	Indian Government.
		(*e*) Alnavar-Dandeli (Provincial)	3′-3⅜″	19	Government of Bombay.
		(*f*) West of India Portuguese	3′-3⅜″	51	West of India Portuguese Railway Co.
		(*g*) Peralam-Karaikkal	3′-3⅜″	15	French Government.
		(*h*) Pondicherry	3′-3⅜″	8	Pondicherry Railway Co.
		(*i*) Tinnevelly-Tiruchendur	3′-3⅜″	38	District Board, Tinnevelly.
		(*j*) Nanjangud Town-Chamarajanagar	3′-3⅜″	22	District Boards, Mysore and Mandya.
		(*k*) Southern	2′-6″	102	Indian Government.
(10) Western	Indian Government	(*a*) Western	5′-6″	1,266	Do.
		(*b*) Western	3′-3⅜″	3,967	Do.
		(*c*) Western	2′-6″	793	Do.
		CLASS II RAILWAYS			
(1) Barsi Light	Barsi Light Railway Co.	Barsi Light	2′-6″	203	Unassisted Company.
(2) Shahdara (Delhi) Saharanpur Light	Shahdara (Delhi) Saharapur Light Railway Co.	Shahdara (Delhi) Saharanpur Light†	2′-6″	93	Company subsidized by the Government of India.
		CLASS III RAILWAYS			
(1) Ahmadpur-Katwa	Ahmadpur-Katwa Railway Co.	Ahmadpur-Katwa‡	2′-6″	32	Branch Line Company under Guarantee terms.
(2) Arrah-Sasaram Light	Arrah-Sasaram Light RailwayCo.	Arrah-Sasaram Light	2′-6″	65	Company subsidized by District Board of Shahabad.
(3) Bankura-Damodar River	Bankura-Damodar River Railway Co.	Bankura-Damodar River‡	2′-6″	60	Branch Line Company under guarantee terms.
(4) Barasat-Basirhat Light	Barasat-Basirhat Light Railway Co.	Barasat-Basirhat Light	2′-6″	52	Company subsidized by District Board of 24 Parganas.
(5) Bengal Provincial	Bengal Provincial Railway Co.	(*a*) Bengal Provincial (*b*) Dasghara-Jamalpurganj‡	2′-6″ 2′-6″	33 8	Unassisted Company. Branch Line Company under guarantee terms.
(6) Bukhtiarpur-Bihar Light	District Board, Patna	Bukhtiarpur-Bihar Light	2′-6″	33	District Board of Patna.
(7) Burdwan-Katwa	Burdwan-Katwa Railway Co.	Burdwan-Katwa‡	2′-6″	32	Branch Line Company under guarantee terms.
(8) Dehri-Rohtas Light	Dehri-Rohtas Light Railway Co.	Dehri-Rohtas Light	2′-6″	24	Company subsidized by district Board of Shahabad.
(9) Futwah-Islampur	Futwah-Islampur Light Railway Co.	Futwah-Islampur ‡	2′-6″	27	Branch Line Company under guarantee terms.

† and ‡ Please see explanation on next page.

Railway system		Lines comprised in the system			Owned by
Name	Worked by	Name	Gauge	Route mileage	
		CLASS III RAILWAYS—*concld.*			
(10) Howrah-Amta Light	Howrah-Amta Light Railway Co.	Howrah-Amta Light	2′-0″	44	Company subsidized by District Board of Howrah and Hooghly and Municipality of Howrah.
(11) Howrah-Sheakhal. Light	Howrah-Sheakhala Light Railway Co.	Howrah-Sheakhala Light	2′-0″	20	Do.
(12) Jagadhri Light	Jagadhri Light Railway Co.	Jagadhri Light	2′-0″	3	Unassisted Company.
(13) Kalighat-Falta	Kalighat-Falta Railway Co.	Kalighat-Falta ‡	2′-6″	26	Branch Line Company under guarantee terms.
(14) Tejpore - Balipara Light	Tezpore-Balipara Light Railway Co.	Tezpore-Balipara Light	2′-6″	20	Company subsidized by Tezpur Local Board.§

†Receives land only from Government.

‡Guaranteed by the Government of India.

§Subsidy ceased with effect from 1914–5.

APPENDIX E

Principal Statistics of Railway Working in Selected Foreign Countries.

British Railways, 1951*

Capital†	£1,427,054,931
Route mileage	19,357
Total Gross Receipts	£372,722,962
Expenses	£337,769,821
Net traffic receipts	£34,953,141
Operating ratio	91%
Passenger journeys originating (in thousands)	1,001,308
Passenger miles estimated (millions)	20,793
Passenger earnings (in thousands)	£107,053
Freight train traffic originating tons (in thousands)	284,803
Estimated net ton miles (in thousands)	22,901,793
Freight earnings (in thousands)	227,858
Train miles—	
Coaching (in thousands)	234,664
Freight (in thousands)	141,732
Number of employees at end of year (including collection and delivery services)	599,890

* *British Transport Commission Financial and Statistical Accounts 1951.*

† Capital represents the gross book value of rolling-stock, vehicles, plant and equipment, lands, buildings, permanent way, etc.

U. S. Railways, 1950*

Investment in Road and equipment—Book value (in thousands)	$30,174,312
Miles of road owned	223,779
Operating revenues (in thousands)	$9,587,000
Operating expenses (in thousands)	$7,135,055
Operating ratio	74·42%
Passengers carried (in thousands)	488,019
Passenger miles (in thousands)	31,790,470
Passenger revenues (in thousands)	$814,741
Total revenue tons carried† (in thousands)	2,710,919
Tons carried one mile† (in thousands)	591,549,521
Freight revenue (in thousands)	$7,933,764
Train miles—	
Passenger train miles (in thousands)	359,055
Freight train miles (in thousands)	522,816
Number of employees (in thousands)	1,237

* *Statistics of Railways in the U. S. A., 1950, Interstate Commerce Commission.*

† Short ton of 2,000 lbs.

Canadian Railways, 1951

	Canadian National Railways*	Candian Pacific Railways§
Capital†	$2,311,881,553	$1,487,838,973
Average mileage of road operated	24,176	17,009
Total operating revenues	$624,834.120	$428,911,639
Total operating expenses	$580,150,221	$402,098,807
Net operating revenues	$44,683,899	$26,812,832
Operating ratio	92·85	93·7
Passengers carried	17,322,723	10,460,532
Passenger miles	1,611,153,281	1,339,362,000
Passenger revenue	$47,475,661	$37,810,166
Tons carried (Revenue freight)	89,618,436	60,650,472
Net ton miles of freight (Revenue)	36,434,821,058	26,826,756,000
Freight revenue	$498,800,344	$351,435,788
Train miles—		
Passenger service	24,412,847	20,059,905
Freight service	48,353,158	36,364,285
Number of employees	121,199	‡74,627

* *Annual Report, Canadian National Railways, 1951.*

† Represents Property Investment account at the end of the year 1951.

‡ Figures of 1950 as shown in *Dominion Bureau of Statistics publications, Canada 1923—1950.* Figures of 1951 are not available.

§ *Canadian Pacific Railway Company Annual Report, 1951.*

SOUTH AFRICAN RAILWAYS, 1950-1*

Total capital expenditure, Railways		£281,315,442
Mileage of open lines as at 31 March 1951	Miles	13,961†
Total earnings		£91,705,561
Total working expenditure (including depreciation)		£59,314,311
Surplus of earnings over gross working expenditure		£32,391,250
Operating ratio		64·68%
Passenger journeys		250,164,799
Earnings—Passenger		£14,708,284
Total tonnage of revenue earning commodities railed (excluding livestock)	Tons‡	53,860,441
Earnings—Goods, coal and livestock		£69,094,915
Total train miles run		83,660,082
Total staff at 31 March 1951		177,675

* *Report of the General Manager of Railways and Harbours for the year ended 31st March, 1951.*
† Includes 580 miles of Rhodesia Railways.
‡ Short ton of 2,000 lbs.

AUSTRALIAN RAILWAYS

	New South Wales Railways 1950-1*	Victorian Railways 1950-1*	Queensland Railways† 1950-1*	Western Australian Government Railways 1950-1*
Capital	£195,852,346	£90,297,366§	£53,387,669	£19,256,385
Miles open for traffic on 30 June 1951	6,113	4,687	6,491	4,228
Earnings	£49,447,738	£20,446,260	£19,191,817	£7,196,214
Working expenses	£49,167,478	£20,810,733¶	£18,974,547	£8,618,863
Net earnings	£280,260	£—364,473	£217,270	£ – 1,422,649
Operating ratio	99·43	101·78	98·87	119·77
Passenger journeys	268,567,083	141,312,589	33,960,811	11,542,778
No. of passengers carried one mile	Not available	1,521,106,058	Not available	173,226,699
Passenger revenue	£15,088,921‡	£6,429,840	£2,970,787	£830,963
Tonnage of goods and livestock (Paying)	17,131,304**	7,539,166	6,863,354	3,033,213
No. of tons carried one mile (Paying)	Not available	1,057,050,906	1,252,442,075	459,973,271
Total goods revenue (including livestock)	£28,350,569	£9,992,509	£14,752,201	£5,361,983
Train mileage—				
Passenger	(Statistics discontinued)	9,692,632	6,752,592	2,528,192
Goods	Do.	4,882,177	11,592,144	4,607,476
No. of staff	59,610	27,255	26,255	11,838

* *Annual Reports of respective Railways for the year ending 30 June 1951.*
† Exclusive of Uniform Gauge Railway.
§ Includes £30,000,000 written down under Railways (Finance Adjustment) Act, 1936.
‡ Represents total coaching earnings.
¶ Excludes expenditure charged to special funds.
** Does not include livestock tonnage.

Books and Technical Papers published by the Railway Board.

BOOK

(1) Report by the Railway Board on Indian Railways. Published yearly. Price: Volume I—Report, Rs. 7-8-0 or 11*sh.* 6*d.* Volume II—Statistics, Rs. 10-2-0 or 16*sh.* (1950-1).

(2) Indian Railways, 1950-1. Published yearly. Price: Rs. 2-0-0

(3) Classified List of Establishment of Indian Railways and Distribution Return of Establishment of all Railways corrected up to 30 June 1950. Price: Rs. 12-2-0 or 19*sh*

(4) History of Indian Railways, constructed and in progress corrected up to 31 March 1945. Published sexennially. Price: Rs. 9-2-0 or 14*sh.* 6*d*

TECHNICAL PAPERS

(5) Over 326 papers have been published by the Technical Section of the Railway Board's Office. The papers comprise:

(*a*) Original descriptions of railway works and studies of railway problems in India and elsewhere

(*b*) Reprints of articles from foreign engineering magazines

(*c*) Reprints or abstracts of reports received by the Government of India on subjects connected with railways

A complete list of the papers can be obtained *gratis* from the Deputy Chief Controller, Standardization, Central Standards Office for Railways, New Delhi. A few of the more important Technical papers are mentioned below:—

Technical Paper.	*Name.*	*Author*
No. 72.	The design of well foundation for bridges	(Compiled.)
,, 148.	Statistics of Railway working expenditure	G. DEUCHARS
,, 153.	River training and control on the guide bank system	F. J. E. SPRING
,, 215.	The Hardinge Bridge over the Ganges Lower at Sara	SIR ROBERT GALES
,, 219.	Technical education in relation to railways in America	H. L. COLE
,, 239.	The Central Control systems for the scheduling of operations in locomotive repairs workshops in England	H. H. SAUNDERS
,, 242.	Railway Statistics and the Operating Officer	MAJOR F. H. BUDDEN
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